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ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2028

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DEPUTY MINISTER REVIEWS FUELS, ENERGY SITUATION

Prague HOSPODARSKE NOVINY in Slovak 6 Jun 80 pp 8-9

[Article by Milan Rusnak, deputy minister of fuels and energy of the CCSR]

[Text] In the power industry the start of 1979 was marked by an especially low level of fuel stocks. A sudden cold snap, which hit our entire republic at the start of January, created major problems in the operation of power plants and paralyzed production in open-cast mines and the shipment of fuels by rail, but the biggest problem created by the cold weather was the interruption of fuel shipments along the Elbe waterway to the Chvaletice power generating complex. But in spite of these initial problems we can say that things have gone well for the fuels and power industry during 1979.

We have taken some decisive steps aimed at stabilizing the fuel supply situation, regulating demand, and making sure that the growth of the national economy is not held up by shortages of electric power. Among the measures taken with a view to reducing the consumption of electric power we should mention above all the introduction of daylight savings time in the CSSR from 1 April to 29 September 1979, staggered workday starting times in single and double shift plants, government agencies and offices, and the reduced consumption of electric power by private consumers, socialist organizations, and medium-sized non-industrial consumers. When it comes to the control and regulation of electric power consumption we might also mention, in addition to the above measures, economic control levers,i.e., the rates and price policy which is expected to have an impact on the energy conservation habits of the general population.

Each in their own way all of these measures have had an effect on the operation of the electric power system, and in the final analysis they have all helped to bring about a reduction in the consumption of electric power in comparison with the levels that were originally set under the terms of the 1979 plan. Other factors which have had an impact on overall energy consumption trends were the problems that have arisen in connection with the fulfillment of production tasks in certain branches of the national economy, problems which were caused not only by internal, but also by external conditions.

Studies that were made have demonstrated beyond a shadow of a doubt that definite benefits were achieved by the introduction of daylight savings time, which during certain months of the year resulted in the conservation of roughly 400 MW (and as much as 700 MW in some isolated cases) of peak-load power output and in the saving of 180 GWh in terms of electrically powered industrial operations. This amounts to an approximate 0.3 percent reduction in our annual rate of electric power consumption. Based on these encouraging results, the government of the CSSR decided that daylight savings time will be introduced during 1980 as well and during certain years of the Seventh Five-Year Plan.

Starting on 1 March 1979 all restrictive measures were abolished, i.e., including the measure requiring the interruption of service to large-scale industrial users during peak-load periods. This resulted in the accentuation of peak loads by as much as 300 MW and a drop-off in minimum loads by as much as 250 MW. This fact attests to, among other things, a low number-of-shifts-worked coefficient in the national economy.

The measures that were adopted and implemented during 1979 had an impact on general energy consumption trends. Not only did the level of energy consumption fall short of the level prescribed by the plan, but in terms of gross consumption declined in relation to 1978 by 1.1 percent, i.e., by 843 GWh. The plan target for net deliveries of electric power was fulfilled by 98.2 percent (index = 99.0 percent). In contrast to the original provisions of the national plan consumption declined by 1,700 GWh among large-scale industrial users and by 1,364 GWh among small-scale users.

In this connection the plan target calling for reduced production of electric power in generating plants in the jurisdiction of the Federal Ministry of Fuels and Power was fulfilled by 97.5 percent (index = 98.8). This breaks down to a plan fulfillment performance record of 96.5 percent for thermal power plants, 100.8 percent for hydroelectric plants and 107.4 percent for nuclear power plants.

As a result of the low level of power consumption a favorable situation developed with regard to electric power transmission line losses, which amounted to 97.3 percent of the plan target (index = 97.7), and the in-house consumption of power plants, which was commensurate with the planned level of production and amounted to 97 percent of the plan target (index = 100.0).

Electric power was exported to the socialist countries in the form of temporary assistance and power-sharing arrangements whenever any of the cooperating countries experienced difficulties in generating enough power to meet demand. Power was exported to the western countries on the basis of power-sharing arrangements and in the form of nightime power exports on Saturdays and Sundays.

Electric power was imported from abroad under the terms of established contracts and on the basis of existing agreements on power-sharing arrangements. It can be said that during 1979 (except during the first days of January) the electric power system of the CSSR was one of the most disciplined systems in CEMA.

The power generating capacity of the Czechoslovak electric power system was essentially stable and did not require the enactment of any emergency measures. The buildup of large stockpiles of coal in the coal yards of power plants also laid the necessary groundwork for the stabilization of supplies of power-driven machinery and for insuring uninterrupted supplies of electric power and supply heat. This favorable development was attributable in large measure also to the dependable operation of the No 1 power generating unit of the V1 nuclear power plant in Jaslovske Bohunice. The maximum load carried by the Czechoslovak electric power system in 1979 amounted to, as expressed in standardized terms, 10,910 MW, i.e., 104 MW less than in 1978 (the index for 1979-1978 was 99.1).

A basically satisfactory performance record was turned in during 1979 with respect to efforts aimed at keeping power plants and heating plants supplied with coal. The calorific value of the coal delivered to these plants declined during 1979 in relation to 1978 by 0.2 percent in the case of bituminous coal and by 1 percent in the case of brown coal. The average consumption of fuel for the generation of electric power reached a level of 390.1 gmp/kWh, which is 0.4 gmp/kWh lower than the level prescribed by the plan.

Average fuel consumtion for the production of supply heat reached a level of 185.1 gmp/1000 kcal, i.e., 0.1 gmp in excess of the level prescribed by the plan.

In view of the fact that this indicator is specifically provided for in the resolutions of the 15th Congress of the CPCZ we must take the question of average fuel consumption, mainly as it related to the production of electricity, seriously and work hard to find ways to bring about its steady reduction. Nor can we permit ourselves to blame problems in this area on the poor quality of coal or on poor distribution management, rather we must make a systematic effort to design new kinds of generating equipment and to upgrade the quality of all repair work. But it is most important that we should insure a consistently high level of plant operational discipline and compliance with all qualitative parameters that apply to the production of electricity and heat.

Total offline time for power plants in the power industry amounted to 26.4 percent of total real capacity and declined by 3 percent in relation to 1978. It is encouraging to note that in 1979 shutdowns of steam power plants attributable to equipment malfunctions declined by 0.5 percent in relation to 1978, but this improvement amounted to only 4.6 percent of total generating capacity. However, we should not permit this positive development to lull us into a mood of complacency. On the contrary, we must make a thorough study of equipment malfunction patterns that occurred during 1979, identify those factors which had made a clear contribution to the reduction of plant shutdowns, and set up strict programs in all production enterprises dedicated to fostering the careful maintenance of all fixed assets, programs which will guarantee that we will keep up this standard of performance during 1980 and that we will strive for further reductions in offline time.

As far as the distribution network is concerned we were forced to institute extensive operational measures in order to make up for the shortage of 110/22 kV transformers and to solve the problem of the diminished quality of airblast circuit breakers. However, these problems are a long way from being resolved once and for all and they will continue to be a cause of concern throughout 1980.

One of the most important measures that was taken was the extraordinary amount of attention that was devoted to the qualitative aspects and the on-schedule completion of general overhauls of generating equipment, including in particular power generating units in the 200 MW category. Twenty (out of a planned 22) general overhauls and refittings were carried out on large-scale power generating units; out of this number it proved to be possible to complete seven repair jobs ahead of schedule, while as a result of materials problems (especially the shortage of metallurgical materials) six general overhaul jobs were completed behind the schedule stipulated by the plan. Total delays in the completion of planned repairs amounted to 51 extra repair days (compared to only 7 days in 1978).

Even though outside vendors bear most of the blame for the failure to meet the prescribed deadlines, we still must think seriously about and try to find the reasons for our own shortcomings in this regard. It goes without saying after all that it is planned repairs themselves which are most important when it comes to determining the degree to which we are ready to meet the demands of the winter season. This is why we must devote the utmost care to the proper planning of this repair work, both in terms of insuring the availability of the necessary materials and also in terms of lining up suppliers of these materials so that we can reduce unforeseeable problems to a minimum and, insofar as such problems do crop up, so that we can solve them in an effective manner, especially at the concern level, by fielding as many technicians and workers as possible to deal with these problems. It is in this regard that the general directorates must make an all out effort to display responsible and uncompromising attitudes both when it comes to the drafting of repair work plans and also to the meeting of set deadlines for the completion of this work.

The conscientiousness of plant operators plays a critical role in determining the condition of fixed capital stock, and in this area too there is always room for improvement. It is above all necessary to spell out clearly the technical requirements of repair work prokects so that it will not be necessary to modify the scope of these projects while they are under way, to make sure that engineering objectives are translated into solid design blueprunts, and to see to it that orders to be sent to outside vendors are technically explicit and promptly drafted. Shortcomings in the planning of repair work cannot be dealt with in such a way that "forgotten" orders are taken care of by resorting to the use of the "rush-order" stamp which eventually, in situations for which it was intended to be used, becomes meaningless.

It is encouraging to note that we have succeeded in gradually upgrading the quality of repair work as a result of improved work scheduling and through the systematic auditing of compliance with established technical procedures during the performance of repair work projects.

The performance of routine repair work is a separate problem. It is intolerable that we should allow routine repair work to take almost as long to get done as general overhaul repair work, or that we should give priority to routine repair work without taking into account the nationwide generating-capacity situation. At the same time, the volume of routine repair work is constantly growing. In 1977 plant shutdowns for routine repairs accounted for 3.4 percent, in 1978, 3.8 percent and in 1979, as much as 4.3 percent of the country's total generating capacity. And this year enterprises are requesting that this ratio should amount to as much as 6 percent of the country's total generating capacity. Indeed, inconsistencies in this area are putting an enormous strain on the country's generating capacities and forcing power-grid controllers to operate the nation's power system in an economically counter productive manner and to draw down stocks of refined and, hence, scarce fuels such as fuel oil and natural gas. We also need to consider whether the partial shutdown of power generating units for repairs and then starting them back up again does the generating equipment any good or whether it in fact, does them some harm.

At the same time we cannot afford to be unconcerned about the frequency of small power station shutdowns or about the curtailment of generating capacity in larger power generating units which are listed in daily reports under the heading "miscellaneous." Recently the number of plant shutdowns in this category has almost tripled and the capacities that are being taken off line as a result amount to about 400 MW worth of generating capacity. We must make a thorough study of the causes of plant shutdowns, evaluate the progress of work on the repair of defective equipment, and see to it that these malfunctions are not merely recorded and reported as shutdowns without being quickly corrected. It is also necessary that responsible plant directors should address themselves to these problems and regard their solution not as a matter of local concern, but rather one of nationwide importance. Certain management levels are still not making a great enough effort to resolve disputes on their own initiative. Instead, unresolved problems, problems which could be handled by duly appointed enterprise officers, are being passed along all the way up to the ministerial level, often accompanied by very cursory and incomplete assessments of the problems at hand. It is therefore imperative that an effort be made to improve things in this area as well.

In the wake of what we went through last winter we decided to pay special attention to the building up of reserve coal stocks that would be large enough so as to enable us to offset short-term fluctuations in the production and transportation of coal. As of 31 December 1979 we managed to build up a reserve stock of brown coal that exceeded the 1978 reserve at the same point in time by 2,124,000 tons and a reserve stock of bituminous coal that exceeded the 1978 reserve by 589,000 tons.

As far as capital construction is concerned, the trial-run startup of the no 1 reactor and two turbogenerators at the V1 nuclear power plant in Jaslovske Bohunice (on 1 April 1979) was a major event. The coming on line of this plant added an additional 440 MW to the country's total generating capacity. But it is still necessary to move quickly to eliminate the backlog of unfinished work at this plant site, to correct problems, and to insure the reliable operation of this primary generating source of the Czechoslovak power system. The reliable operation of this nuclear power plant will play a major role in stabilizing our overall fuels, generating-capacity and electromechanical engineering supply situation. During 1979 the first nuclear generating unit to come on line at this plant produced almost 800 GWh in excess of the plan target, which called for an output of 1,350 GWh.

order to meet the plan target set for the production of electric power in steam power plants it will be necessary above all to exploit the generating capacities of our nuclear power plant and brown-coal-fired power plants burning special purpose coals and to carefully conserve all grades of bituminous coal, fuel oil, natural gas and high-grade brown coal. Measures must be taken to reduce the consumption of light heating oils and to put a stop to the burning of diesel oil for heating purposes, since this is a fuel which should be used strictly for traditional purposes.

The realization of this fact is a top-priority issue in the operation of heating plants and power plants and in the drafting of plans that govern their operation, and this has to be the case even at the expense of having to assign new ratings to capacities incorporated into the automatic frequency regulation system. This means that power-grid controllers would be in charge of day-to-day power plant operations and that the planned volume of generating plant shutdowns would have to be adjusted to accomodate this situation. Here we are not talking about the neglect or counterproductive curtailment of repair and refitting work, rather we mean to say that it is necessary to reevaluate the duration of shutdown periods. This can be accomplished by making a concentrated effort to complete repairs on those power generating units for which an adequte fuel supply is available. Here we are thinking primarily about the Tusimice-Prunerov region where we should make an affort to assign top priority to making arrangements for deliveries of materials for repairs, to concentrate resources and enterprise-to-enterprise mutual assistance, and to assign multiple shifts to the performance of repair work. These are precisely the kinds of projects which should be the focal point of programs designed to stimulate worker initiative. It must be understood that a pledge to shorten repair work time and the fulfillment of this pledge is of greater importance to society as a whole in the case of powerplants supplied with fuel directly by conveyor belts from coal fields than it is in the case of power plants which burn fuel that is locally scarce.

Some special situations also developed that had an impact on the operation of the Czechoslovak electric power system during the latter half of 1979 and the winter of 1979-1980. Moreover, incidents are still occurring in which equipment is handled in an improper manner, incidents which inflict damage on plant equipment and curtail supplies of electric power. Nor can it be ruled out that such equipment mishandling incidents will not cause a worker to suffer fatal injuries. In any event the importance of systematic and thorough inspections of work stations whenever any kind of repair is scheduled to take place or whenever equipment is being tested cannot be overemphasized.

The operational dependability of 400/110 kV transformers continues to be a serious problem that is placing strains on some sections of the electric power system. And in spite of explicit orders stipulating that the handling of these transformers should be kept to a minimum, operators are not displaying a sufficiently responsible attitude when it comes to maintaining these transformers in good working order. The serious disruption of normal operations at an important and strategic link in the CSSR's power system, namely, at the Podunajske Biskupice transformer station, caused by a few mistakes made by that station's operators ought to serve us as a warning. These incidents created an extremely serious situation that jeopardized the supply of electric power to Bratislava, and this was primarily due to the fact that these breakdowns occurred just before the start of the winter season (on 24 September 1979). We were forced to alleviate this situation by relocating a transformer imported from England to this site, a transformer that was originally supposed to be installed in the newly completed 400/110 kV transformer station at Dasny. This incident must at the same time make us stop and think about the quality of the personnel who operate complex power generating equipment, personnel who are often responsible for supplying electric power to some very important sectors of our national economy.

We have to realize that our electric power system is an integral part of the vast interconnected power-grid system of the CEMA countries and that a breakdown in our system is bound to create problems in terms of the reciprocal cooperation of the other countries that make up the overall system.

We cannot allow ourselves to reach the point where the quality of our power plant operating personnel winds up being inferior to the quality of the plant operating personnel working in the other cooperating countries. Such a situation is not consistent with the traditions of the Czechoslovak power industry, nor does it attest to the successfulness of our management practices in this area. Therefore, one of the most important tasks confronting the general directorates and, above all, managers at the enterprise level must be to exert relentless pressure aimed at insuring compliance with the rules of labor and technological discipline.

We also need to think seriously about the dependable functioning of measures aimed at finding alternative power sources for the internal consumption needs of our power plants, about the quality and proper functioning of all protective devices and automated power-grid facilities, and above all about the dependability of the power-grid controllers' communications system. Heavy demands are placed on this communications system, especially so whenever breakdowns occur, that is, at times when the successful troubleshooting of breakdowns is contingent upon dependable communications between all components of the Czechoslovak electric power system. We must devote as much attention as necessary to the resolution of these problems. During negotiations on capital investment projects we cannot permit ourselves to conserve investment funds by overlooking the installation of needed telecommunications facilities.

It is necessary to take a more consistent approach to the modernization and renovation of the electric power grid in Prague and, by assigning top priority to the fulfillment of this important task, to systematically lay the groundwork for insuring dependable supplies of electric power for our country's capital city.

The scheduling of rigorous, in-depth inspections was one of the factors which certainly made a contribution toward upgrading the quality of planning work for the winter of 1980 and toward putting a stop to the routine way in which the summer program was carried out. A total of 27 inspections was carried out at power system facilities, including 12 power generating plants, 6 heating plants and 9 distribution substations. These inspections were carried out on a random, spot-check basis and critically singled out avoidable deficiencies that would have to be rectified before the start of the winter season.

For example, at the Podunajske Biskupice distribution center it was found that nothing had been done to develop an internal program of preparatory work for winter. Instead, all that had been accomplished was the elaboration of some orders issued by the plant director. Likewise at the V nuclear power plant serious shortcomings were brought to light in this area, and as a result preparatory work for the winter season got under way at a very late date.

We also focused our attention on reducing the rate of generating equipment malfunctions. For example, the implementation of short-term corrective measures led to a drop in the frequency of malfunctions in the 110-MW generating units at the Novaky power plant. The Trencin Hydroelectric Power Plants also had a low equipment malfunction rate, and this was due to the quality maintenance of plant equipment and the utilization of shutdown time to get a headstart on preventive maintenance. But not all organizations succeeded in lowering their equipment malfunction rates. For example, at the Chvaletice power plant the rate of equipment malfunctions during the first 6 months of the year was roughly two and a half times greater than the prescribed norm. Nevertheless, steps were taken here as well to correct shortcomings in this area.

Further checks were made to determine whether a majority of power system installations were making a consistent effort to insure the uninterrupted operation of generating and distribution equipment during the winter season.

Shortcomings were discovered at the Ceske Budejovice heating plant where, at the time of the inspection, work had still not been completed on enclosing the facilities of the K 12 boiler in the central machine room. At the Podunajske Biskupice distribution center work had not yet been completed on repairing the roof of the main plant building. As a result water was leaking in onto the plant equipment. The Novaky power plant had broken windows in its loading dock area, in the powerhouse and in the boiler room.

We found that defroster tunnels were in a good state of readiness for the winter season. However, the second defroster tunnel at the Melnik power plant was not put into operation on time, and this created problems not only for the power plant itself, but also for the North Bohemia Brown Coalfields and Czechoslovak State Railways. The reason for this delay revolved around disagreements between the investor and the contractor. Steps should be taken to prevent the recurrence of these kinds of problems.

The mechanical condition of unloading equipment, i.e., Koch unloaders, proved to be a sore point in terms of the frequency of equipment malfunctions at the Chvaletice power plant. Serious problems were experienced by almost all organizations that use bulldozers which have a high breakdown rate.

Notwithstanding the shortcomings that were brought to light, conditions were not bad enough at any of the inspected facilities to cause operations during the winter season of 1979-1980 to be jeopardized by the implementation of the recommended corrective measures. The readiness of these facilities for the winter season could be said to be much better than it was during the same period last year as a result of the much more consistent approach that was taken toward the fulfillment of the summer work program. But the tasks set forth by this plan were not always spelled out in sufficient depth and detail as far as the responsibilities of individual work areas are concerned. It is not enough to come up with a meticulously drafted program at the enterprise level and to insure the consistent and systematic review of its implementation by purely administrative means at regularly scheduled meetings, rather it is necessary to spell out tasks in relation to the concrete conditions of individual plants and work areas and to work together with management to lay the groundwork for encouraging the widespread development of worker initiative, for the advancement of the pledge-work drive and the activities of the rationalization brigades. However, we must underscore the importance of performing substantive reviews of the fulfillment of tasks by top management staffmembers in enterprises and plants. Only in this way will it be possible to promptly detect shortcomings and to initiate effective corrective measures.

In view of what we went through last winter we will during 1980 and during the winter season of 1980-1981 continue to enforce the rules that were adopted for the winter of 1979-1980 which were designed to facilitate the stockpiling of as much fuel as necessary in power plants and heating plants.

In order to augment the fuel storage capacities of the power industry, work is now proceeding at an intensive pace on the completion of the construction of the fuel storage areas at the Melnik II and Prunerov II power plants so that work can begin on the stockpiling of fuel at these sites by 2 July and 1 August 1980, respectively. Assuming that this goal is reached, it will be possible by 15 October 1980 to build up maximum inventories amounting to from 3.4 to 3.8 million tons of brown coal and from 1.1 to 1.3 million tons of bituminous coal.

Steam power plants have been provided with all the fuel they need to meet their production targets. The burning of 18.5 million tons of coal produced by the Nastup mine, 13.6 million tons of which is supposed to be burned in the SZM [expansion unknown] power plants, still poses something of a problem. This volume of coal is 1 million tons larger than last year's, and so it will be necessary to take maximum advantage of coalfield power plants. Throughout the year the rule will be enforced which calls for maximum conservation of higher grade fuels and for the curtailment of production in those generating plants which burn this kind of fuel. At the present time checks are being made to assess the production of electricity and heat in factory power plants with a view to cutting back on production wherever this will contribute to the conservation of high-grade coal. The fulfillment of coal deliveries is contingent upon the regularity of rail transportation services and on the fulfillment of planned coal shipments by waterborne routes to the Chvaletice plants.

The fuel demand forecasts for 1980 are based on the assumption that during this year power plants will burn around 360 million cubic meters of natural gas in excess of planned targets coupled with the simultaneous conservation of 120,000 tons of fuel oil and the reduced consumption of brown coal. These levels are consistent with current demand patterns, and it has to be expected that a final decision on fuel demand for the entire year will have to be stated in more precise terms on the basis of demand patterns during the first 6 months of 1980 with a view to building up advance inventories that are as large as possible.

The 1980 plan sets forth a mean fuel consumption rate amounting to 387 gmp/kWh. This is a very highly ambitious target. One of the measures taken for the purpose of achieving this performance indicator calls for the decommissioning of the obsolete Ervenice power plant (on 1 April 1980) which has been responsible for significant deterioration in the rate of mean fuel consumption.

On the demand side of the balance sheet the plan calls for a mean annual growth index of 105.1 in the case of large-scale industrial users, 104.1 in the case of small-scale users, and 104.9 in the case of other categories of users. However, we anticipated that the target index for large-scale industrial users will be exceeded by a narrow margin and that the target index for small-scale and other categories of users will be underfulfilled by a wider margin. The targets set for exports of electric power have been fulfilled, and this applies both to the socialist and to the capitalist countries and takes into account supplementary export tasks.

The production target for supply heat amounts to 27,000 Tcal, and in general this will be sufficient to meet anticipated demand, except that during the months of coldest weather disparities may develop in some localities between the capacitites of generating sources and consumer demand. As in the past, this problem is being resolved by means of local adjustment plans.

It is not expected that any crises will develop as far as the supply of electric power generating capacities is concerned. As long as both units of the V1 nuclear power plant at Jaslovske Bohundice continue to operate in a dependable manner and as long as provisions are made for obtaining necessary imports of electric power, the supply of electric power generating capacities will remain essentially stable. On the demand side of the equation, measures will be put into effect calling for the stabilization of daily load diagrams and for bringing pressure to bear aimed at shifting demand away from peak-load periods and at its more even distribution during nighttime hours and on Saturdays and Sundays.

During 1980 20 general overhauls and refittings were carried out on large-scale generating units. These projects are listed as mandatory tasks under the terms of the national plan. The number three generating unit at the Ledvice power plant will undergo a general overhaul as part of a holdover project from 1979.

The process of completing these repair projects involves a number of problems which have necessitated the rescheduling of plan deadlines. Even though a majority of these general overhaul projects have been well planned, instances are still occurring in which the materials needed for these overhauls are obtained on a crash-program, unsystematic basis, and there are even projects slated for the first half of 1980 that have not yet gotten underway. The aforementioned rescheduling of plan deadlines will lead to a heavy concentration of installation jobs, both in the boiler and turbine areas, during the third quarter of the year.

During 1980 heavy emphasis will be placed on the efficient utilization of all forms of energy. As far as the increased efficiency of fuels and energy consumption in the jurisdiction of the Federal Ministry of Fuels and Power is concerned, attention is being focused on the fulfillment and overfulfillment of the set task for a relative fuels and energy savings amounting to a total of 1,495,000 standard fuel tons /tmp/, something which will go a long way toward helping the ministry to meet its targets for the Five-Year Plan as a whole.

It is still necessary to continue regulating the consumption of electricity in all consumer categories. For this reason during the second quarter of 1980 we will conduct an experiment using new methods for controlling consumption among large-scale users. These methods entail percentage cutbacks in contracted production that will vary according to existing levels of monthly power usage. For this purpose we have divided users into four categories in which cutbacks will be implemented ranging from 2 to 7 percent. These measures will result in the conservation of 100 MW, which on the average accounts for 2.5 percent of the load placed on the power system by industrial consumers.

Resolution no 64 of the presidium of the government of the CSSR dated 30 March 1980 ratified the extension of the validity of the conservation measures pertaining to electric power demand among small-scale consumers and socialist organizations in accordance with the rules published in HOSPODARSKE NOVINY no 15, 1980.

An adverse situation is also developing in relation to the power system's daily load diagram. The configuration of this diagram is deteriorating, the gap between maximum and minimum levels is widening, and power usage during nightime hours and the period between 1300 and 1500 hours is declining. A new peak load is showing up during the period between 2200 and 2400 hours, a load which often stretches out for as long as 1 hour and substantially reduces pumping time in pumped-storage hydroelectric power stations. In the operation of our electric power system there have even been cases in which it was necessary to refill the reservoirs of pumped-storage hydroelectric power plants at 0100 hours. This nightime peak is due to the big jump in pent-up demand wherever plants with generating capacities of around 2,000 MW are already on line. A successful solution to this problem appears to lie in the rapid and widespread introduction of mass remote control devices which are still not being produced in Czechoslovakia in sufficient quantities. The generating capacity supply situation for 1980 appears to be essentially stable, even though problems are bound to arise, especially so as a result of complications related to planned deliveries of electric power from Romania. It will therefore be necessary to pay close attention to securing as much reserve generating capacity as possible, that is, it will be necessary to reduce off-line time attributable to equipment malfunctions to a minimum and to take a cautious attitude toward requests for plant shutdowns so that repair work can be carried out, especially so in the case of routine repairs. But it will still be necessary to monitor the condition of all generating equipment, and this applies also to small-scale power generating units whose breakdown frequency rate has lately been on the increase.

Increasing difficulties associated with securing adequate supplies of fuels and power make it necessary for us to focus more attention than before on harnessing the idle portions of our hydropower generating potential. While work on the construction of large-scale hydroelectric power stations that are specifically provided for under the terms of the national plan is gradually moving ahead, an adverse situation has developed (for various reasons) in terms of the utilization of small streams and also in terms of the utilization of larger streams with slow currents on which hydroelectric power stations have been built with generating capacities of around 100 MW. At the present time the State Power Inspectorate is conducting an inspection of the technical condition of these small hydroelectric power stations.

The key tasks for the summer of 1980 and the winter of 1980-1981 were also defined on the basis of a critical and objective evaluation of the preceding period. These tasks involve primarily the prompt and proper completion of planned general overhauls and refittings of power generating units and transformers, the startup of new generating capacities in keeping with the provisions of capital construction programs, the stabilization of balance of electric power services and energy resources, the acquisition of needed fuels for power generating purposes and for the building up of stockpiles, reducing the breakdown frequency of generating and distribution facilities, improving mean fuel consumption levels for power generating purposes, reducing transmission line power losses, and strengthening power-grid controller discipline.

One of the key tasks that must be addressed at the present time is the need to foster stronger cooperation with miners and transportation workers in the course of securing needed volumes of fuels, building up reserve stockpiles of fuel for the winter season, and insuring the optimal utilization of available fuels.

Current events are confronting the power industry with additional challenging tasks, the fulfillment of which will call for an extra special display of initiative on the part of workers employed in power enterprises, control centers, general directorates and the Federal Ministry of Fuels and Power. These tasks are bound to take a heavy toll in terms of the managerial and organizational work expected of all organizational levels.

But neither can we permit ourselves to ignore the need for an objective assessment of the energy situation during the course of the entire year, and we must view the problems that arise in this regard from the standpoint of the interests of society as a whole and not just from the narrow, local perspective of the enterprise or individual plant. It is intolerable that workers at the enterprise management level should calmly report that a breakdown has occurred at a generating or distribution facility without being aware of how serious such an incident is from the standpoint of insuring the operational integrity of the national power system or of the kinds of rigorous measures that will have to be taken to correct such a situation by higher-ranking organs, including those of the Federal Ministry of Fuels and Power. This is why we are again underscoring the need to keep management workers at all levels thoroughly and systematically informed about the overall energy situation.

We must all bear in mind our responsibility to society as a whole, and our decisions must be based without exception on our recognition of the general public interest.

11813
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IMPORTANCE OF PLANNED ECONOMIC RELATIONS IN SET OF MEASURES

Prague RUDE PRAVO in Czech 17 Jun 80 p 3

[Article by Engr Karol Martinka, deputy premier of the Slovak Socialist Republic and chairman of the Slovak Planning Commission]

[Text] "...Our national economy, intertwined by a myriad bonds of mutual cooperation among plants, suppliers and consumers can continuously develop only under the prerequisite of perfectly synchronized functioning of these bonds."

(From the report of the Presidium of the Central Committee of the CPCZ at its 14th plenum.)

We find ourselves in a period when the entire economic sphere at all levels of economic management, particularly as regards leading management personnel, must have a feeling of increased political responsibility in carrying out their tasks, because they are significant for the present as well as for the future. This involves two groups of tasks which, due to their complexity, are extremely challenging as regards the quality of political organization and planning concepts.

The first group of tasks is given by the fact that in a short time we will enter the second half of the last year of the Sixth Five-Year Plan. Thus, it is high time that we adopt supplementary measures that would tend to enhance our efforts and struggle to carry out the Directives for Economic and Social Development of the CSSR proclaimed by the 15th Congress of the CPCZ for the years 1976-1980.

Taking such an action is indispensable, even though in the course of the current year to date we maintain a dynamic development of the basic production sectors (e.g., industrial production marked a 4.2-percent increase in 5 months). We must also realize, however, that a greater part of the available working time for the year has elapsed in comparison to the proportion of tasks planned for the year that we managed to implement. The focus of carrying out this year's tasks is shifting, particularly in some sectors, to the second half of the year, in which we will be faced by relatively more complex and greater tasks than was the case in the first half of the year. This applies particularly to implementation of exports in more sectors, in the structure of deliveries for the domestic trade and completion of production and other facilities for utilization. This also specifically applies to decisive tasks in improving the effectiveness development in its entirety. And it will be precisely such systematic implementation of these tasks that will affect not only attainment of objectives and intents resulting from the proceedings of the 14th Plenum of the Central Committee of the CPCZ for the year 1980, but will also in no small measure predetermine economic development at the outset of the next five-year plan.

The second specific task of this period is given by the fact that in the past several weeks economic production units, plants and organizations received specifications of directives for compiling recommendations of plans for the year 1981 and documentation for a recommended plan for the entire Seventh Five-Year Plan.

The deadlines for compiling recommendations are relatively tight, recommendations must reach economic production units by 4 August and the ministry by 15 September. Also the complexity of the conditions under which future development will take place is extraordinarily challenging and, therefore, all levels of management should not only refrain from delaying compilation of both recommendations, but look for new, unconventional paths toward the solution and implementation of planned objectives. Even the least amount of underestimating the importance and political responsibility of this task would necessarily become manifest not only in the plan recommendations, but mainly because all of us would come to feel the effects reflected in the possibilities for enjoying the final results of our efforts--particularly as regards our standard of living.

All this economic activity is multifaced and manifold. It requires us to concentrate our attention on an area ranking among the most decisive, as it determines to a great extent all the prerequisites of further continued and dynamic development. It involves implementation of systematic mutual ties within the plan's framework, establishment of mutual relations between economic organs and organizations, mutual taking and providing of deliveries of raw materials, materiel, semifinished products and finished products, thus creating conditions conductive to secure material supply for production. It involves systematic channeling of tangible relations, the decisive factor for smooth rhythmical flow of production and thus also an uninterrupted and dynamic development of the entire economy, but also a factor that represents the point of intersection in the level of all economic management which determines the degree of success with which the party's economic program will be implemented.

Much effort has already been expended on finding solutions to this problem in previous years. We adopted and gradually implemented some systemic measures, we strove to make the plan more specific, structural changes are being made in the economy in favor of sectors that are less dependent on materials and imports. Yet we still are faced with the fact--as evident from the findings regarding carrying out of the plan in the first months of this year--that in some plants the continuity of the production process and utilization of resources is hampered particularly by shortcomings in logistics, which ultimately affects domestic trade supplies, meeting of export and investment quotas.

The common denominator of these difficulties is inadequate implementation of intended goals which becomes reflected in lack of balance in carrying out the plan, lack of respect for common interests of the society through promoting narrow interests of the plant itself. In many areas there is a lack of systematic implementation of the requirement stated already at the November plenum of the Central Committee of the CPCZ in 1974--improvement of the economy's efficiency. Updating of norms for consumption of energy, metals and other raw materials is not sufficiently effective, neither is objectivization of inventory norms or better utilization of imported materials. Some of these bottlenecks are also due to unsatisfactory quality of the entire planning process and negotiation of supply and demand relations, and many among the leading management personnel caused their current problems actually by the quality of their efforts as early as summer of last year.

Not only must we avoid these shortcomings, but conditions for further development make it imperative that we concentrate our attention and efforts particularly on the area of systematic control of relations in the sphere of material resources. The increasing importance of this planning effort is further underlined by objectively unavoidable structural changes in development of production, which translate into distinct differentiation in the rate at which individual sectors develop, and thus, also, their variegated needs. We must start thinking in the terms of a dwindling growth of sources of energy and of raw materials, in some cases even with a protracted stagnation in their consumption. A more expedient and a more systematic implementation of the results of technoscientific development, which became an unconditional necessity, will also bring about distinct changes in current relations.

The purport of all this is that economic relations of each plant, branch and sector will not be characterized merely by a quantitative growth of their relations (and we know that they increase by a multiple of the rate of development), but mainly by a pronounced shift from static to dynamically progressive elements of these relations.

All this represents an irreplaceable and, in subsequent phases, irretrievable stage for implementation of intertwined economic relations, a very important part of overall planning.

The system of measures for improving planned control of the national economy rightfully pays extraordinary attention to this particular sphere of planning, be it in regard to direct means in the entire budgeting system, or indirect means of control. They represent an extensive complex of measures designed to collectively modify the entire system of planned control of economic relations. Even though the Set of Measures as a whole will attain its full weight only after the five-year plan is approved, this does not connote by any means that it cannot be used right now.

On the contrary, full utilization of its advantages calls for intensive application of the adopted principles already in the current planning stage--preparation of plan proposals.

This means primarily making use of its key advantage--shifting the focus of maintaining the proper ratio of economic relations into long-term plans in general and into the five-year plan in particular. Preparations for the five-year plan represent a crucial period when we can arrive in this sphere to the requisite conclusions and measures in regard to the national economy, be they measures toward expanding production resources, or implementation of saving measures in consumption. The only other dominant factor in the yearly plan will then be the modeling function of budgeting.

This constitutes the area of jurisdiction, but also of responsibility, for all levels of management in their newly formulated effective division of tasks while enhancing the role of the center.

An organic part of the directives for compilation of proposals for the plan for 1981 as well as for the Seventh Five-Year Plan, approved in April by the federal and both national governments, is a system of balances which also include material balances. At the state plan level their number is being increased from 210 in 1978 to 343. The state plan, and thus also its coauthors, assume full responsibility for providing for the needs of the national economy and proper balancing of the plan in regard to these products.

Responsibility for balancing the next 127 products is assumed by the appropriate ministries, and for 253 products by the economic production units.

Such decisionmaking and responsibility in the case of fuels and energy represents almost 100 percent of the market, 65 percent in the chemical and consumer industries, roughly 60 percent in construction materials and 50 percent of all production in mechanical engineering.

What is ahead of us?

For the first time we approach the preparation of a system of materiel balances and supply-and-demand negotiations with the requisite lead time for the entire five-year period and prior to adoption of the five-year plan. Mutual relations will be negotiated on the basis of a new decree--No 48 (which replaces the well known Decree No 33/1975 of the Codex) which already incorporates many progressive measures.

In accordance with approved terms and work schedules, supply-and-demand relations for the Seventh Five-Year Plan are to be negotiated at the medium-management level by 19 July 1980 and at the central-organs level by 30 August 1980. The terms have been set in that manner so that the proposed plans of these management levels (to be submitted on 4 August and 15 September 1980) would be based on negotiated relations and not merely proposed requirements that cannot be met as regards materials and energy.

Negotiation of supply and demand relations must be approached by the entire economic sphere with the knowledge that it too must participate in assuming responsibility for balancing the plan by the requisite material resources, particularly products, which are approved at intermediate management and central organ levels. At the same time, it must remain aware of the fact that it will negotiate mutual economic relations also for products approved at state plan level and thereby assumes--in addition to the planning committeess--responsibility for balancing these products.

This is compounded by the fact that many more relations will have to be negotiated than was the case in past years, as cases for compulsory negotiation of relations are being expanded and in this framework include negotiation of relations in regards to other products, raw and other materials which will have to be balanced.

This involves not only important, but also challenging and complex, planning. For that reason it must receive extraordinary attention of all organs at the intermediate-management level (which, as is well known, constitute the key element of management) as well as of the ministries. The quality of their efforts will determine whether this sphere will cease to act as a brake in smooth and dynamic development of production, as still happens on occasion.

Organs and organizations representing supply and demand must not only contribute to successful conduct of the task, but must also assume full responsibility.

Economic organs and organizations, ministries--in the role of suppliers, to fulfill their function and responsibility for meeting the needs of the national economy by the production which they provide--face three key tasks in this period.

First of all, as a starting point, they must prepare their own projections of the balances approved under their jurisdiction as a basis for negotiation of mutual relations. These projections, worked out on the basis of demand surveys and an analysis of the current situation in providing supplies for individual consumers, must objectively reveal the status quo and actual needs from the viewpoint of national economy.

The second and decisive task is to carry out their own supply-and-demand negotiations. This must include not only products balanced at state plan level, but also those balanced at ministry and economic production unit level. Herein it is imperative to abide by the obligations specified and added by new Decree No 48/1980 of the Codex. It ought to be particularly pointed out that management organs are obliged to enter into agreements to add depth to compulsory negotiations, particularly as regards key supplies for use in production. This new measure ought to be adequately implemented particularly in cases where key production requirements depend on the supply of so-called nonbudgeted products--an area still plagued by most shortcomings.

To enhance the effectiveness of all these planning efforts, suppliers are obligated to submit together with the proposed plan an outline of discrepancies--mutual supplies that failed to be negotiated--to senior management levels. This ought to provide a cue that needs of the national economy are not being met, or are being met only partially. But in addition to providing such a cue, the supplier is obligated to also submit and incorporate into his proposed plans specific measures for alleviation of bottlenecks which are currently clogging the smooth flow of the reproduction process.

It ought to be particularly pointed out that there is an imperative need for a change in the approach of suppliers to such negotiations, specifically to avoid any negative aspects, such as evasiveness in contract negotiations and obligations, postponement of solutions to open problems, distorted interpretation of pertinent provisions--particularly that all that has to be done is offer supplies at last year's level, etc.

Economic organs and organizations, ministries in the role of customer and consumer cannot afford to remain passive in harmonizing relations. They bear a high degree of political responsibility and must actively and in a significant manner influence synchronization and, particularly, streamlining of mutual relations and thus a smooth functioning of the economy.

Proportional development and a balanced plan are not static concepts. Effective balance is not a simple arithmetical equality between production and need, supply and demand, but such a relation between the two that warrants attainment of the highest possible final results at minimum cost and in the shortest time possible.

This means in practice that the bond between supply and demand must be formed by progressive norms and consumption indexes. Consumer organizations and organs must therefore also plan and implement measures to effect optimum savings in the consumption of fuels, energy, raw and other materials, as required by directives for lowering consumption of materials. This will require checkups and screening leading to more progressive norms and indexes of consumption. Thus, consumer organs and organizations must finally come to realize that conscious exaggeration of needs per production unit--in keeping with the old saw "the more you ask for - the more you get"--is an antisocial act which under the current situation cannot be condoned but must be mercilessly exposed.

We are currently going through a period of important planning. All leading personnel throughout the economic sphere must realize the significance of their political responsibility for

--how efficiently they will use this time remaining till submission of their plan proposals,

--and how effectively they will avail themselves of the considerable leeway so generously provided by the Set of Measures for Improving the System of Planned Control.

And all this for the specific purpose of making the mutually intertwined relations between supply and demand not a brake, but a stimulus for continued proportionate and dynamic development of our economy.

8204
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SET OF ECONOMIC MEASURES STILL SUBJECT OF DISCUSSION

Discussion of Implementation

Prague PLANOVANE HOSPODARSTVI in Czech No 5, 1980 pp 22-29

[Interview with Engineer Vladimir Horalek, Director of the Department of Planning, Management of Methodical Systems at the State Planning Commission, by Engineer B. Fron, Editor in Chief: "Discussion of the Procedure in Implementation of the Set of Measures for Improvement of the System of Planned Management of National Economy"]

[Text] The decision of the Presidium of the CPCZ Central Committee and of the government of the CSSR concerning the Set of Measures for Improvement of the System of Planned Management of National Economy After 1980 represents a qualitatively novel step in organized action for continuous improvement and development of Czechoslovak socialist society and its material base. In order to acquaint our readers more closely with the method of implementation of this extensive program in our economic practice, we asked Comrade Vladimir Horalek, the director of the Department of Planning, Management and Methodical Systems at the State Planning Commission, for an interview.

[Question] The decision adopted by the Presidium of the CPCZ Central Committee and by the government of the CSSR for the purpose of improving the system of planned management of national economy represents an extensive program of measures whose detailed elaboration and implementation will involve a demanding process. What procedures will be followed in that direction?

[Answer] The scope of the adopted measures and their depth are such that their elaboration and implementation cannot be at all narrowed down to mere changes in respective regulations, instructions, directives, etc. First of all, this involves the enforcement and control of the contents, "the spirit" of the measures, so that all levels of management, all leading as well as rank-and-file workers in their particular places of work comprehend and accept the changes in their daily work stipulated by the adopted measures. These measures represent one of the essential aspects of the contents and implementation of the party and the state economic policies, with a long-range perspective and with an increasingly more urgent emphasis on the growth of efficiency and quality of all labor. For that reason and with a direct linkage to the adoption of these measures, all organs and organizations of the CPCZ are mobilizing all functionaries, members and all economic workers, so that they understand, consistently implement and achieve the objectives of the adopted measures and the methods of their application. These measures cannot be achieved merely by acts from above, so much less so by administrative acts, but only with a broadly based creative cooperation and participation of all levels of management, leading workers, and workers collectives. The preconditions and the goal of the measures involve changes not only in the function of the mechanism of tools in planned management, but most of all, in the approaches of each participant in the process of production (in the broadest sense of the word) to his decision making process and to his conduct. First of all, the criteria of qualitative contributions to our society must come to the fore. Therefore, in the whole system of measures, in the process of planning, in material incentives, in the organization of management, and in orientation of the workers participation in the management, the extent to which the needs of organizations, collectives and individuals are satisfied is combined in a new and far more intensive way with qualitative contributions to our society. Managing programs of individual organs and leading workers on every level of management must agree with that requirement. Thus, the priority task in the process of elaboration and implementation of the adopted measures is to explain and introduce their basic objectives in every place of work.

Naturally, this does not weaken in the least the importance and the challenge of the elaboration of the adopted measures in the form of a specific structure of individual indicators, tools and mechanisms of their function. For that purpose, a unified program of elaboration and implementation of the adopted measures has been stipulated; it designates those in charge of individual tasks, the cooperating organs, and the terms of fulfillment. The coordination of those efforts, which is a joint task of the State Planning Commission and of the Governmental Committee for Affairs of Planned Management of National Economy, is especially stressed there. The formulation of this program is aimed at the implementation of the adopted measures in practice as much as possible from the beginning of 1981, in other words, from the first year of the Seventh Five-Year Plan. It is therefore envisaged that all appropriate legal norms, in which the implementation of the adopted measures will find its concrete expression beginning in 1981, will be completed in the third quarter of this year.

[Question] How far will the adopted measures become evident in the formulation of the plan for 1981 and in the Seventh Five-Year Plan?

[Answer] The main task in this respect was to project the adopted measures into the Unified Methodical Instruction for the Draft of the Proposal of the Five-Year Plan for 1981-1985, and for the proposal of the operational plan for 1981. At the same time, several other measures adopted by the government of the CSSR and by the governments of both republics, aimed at intensified planning in certain branches or sectors of our national economy, were projected into those instructions.

It is known that the Seventh Five-Year Plan and the proposal for the plan of operations for 1981 are elaborated jointly by all ministries, in other words, the proposal of the plan for 1981 is being drafted as a part of the groundwork for the Seventh Five-Year Plan in accordance with the directives and instructions stipulated by the government, which will guarantee the application of information concerning the long-range development, its requirements and problems in the formulation of the operational plan for the first year of the five-year plan.

The unified methodical instructions implement basically all measures adopted so as to intensify the planning process, in particular, to achieve the methodical preconditions for a more consistent internal balance of the plans. This is practically reflected in every section of the plan, however, most distinctly in the balance of material relations in national economy. From this point of view, methodology of planning provides the necessary groundwork for a more thoroughly balanced plan by means of balanced structure and sales in the concept of values, as well as--and especially--by means of the balance of raw materials, materials and products in material units. The volume of products thus balanced is expanded particularly by the introduction of material balances on the level of central branch organs and of the VHJ [economic production units] which, together with products balanced at the level of the state plan, represent roughly 50 percent of the total volume of production. Substantial expansion of the area of balance management and of import sales management must also be considered in this conjunction. Preconditions for a balanced program have been intensified in other sections of the plan, especially in the area of manpower in correlation with capital replacement, in the area of foreign trade, and so on. It is very typical that the emphasis is here on the criterion of efficiency in terms of the needs of individual types of balances, i.e., efficiency in the application of the entrusted resources, be they raw materials and materials, or capital, manpower, foreign exchange, etc. For that reason, more through objective interrelations of the indicators and calculations of efficiency with individual parts of the plan were also introduced so as to document the most relevant criteria of efficiency as an organic component and the basic standard for the level of the proposed plans.

At the same time, the adjustments made in methodical instructions will correspond with the needs to create and apply those economic conditions, particularly the tools of material incentives, with which the adopted measures count. This concerns first of all the system of indicators and specification of their internal contents, furthermore, individual funds, qualifying indicators, and so forth.

A no less relevant document in which an important part of the adopted measures has been included already during the preparations for the plan for 1981, is the announcement by the State Planning Commission and State Arbitration Board of the CSSR, No 48/1980 Collection of Laws, concerning material balances and the discussion on supplier-consumer relations in the process of planning. Here the extraordinarily important position of the system of supplier-consumer relations in the planned management of the Czechoslovak economy finds its expression. The announcement introduces appropriate tasks for an improvement of planned management of material relations according to the decision of the government of the CSSR No 15/1978. In agreement with those documents, and contrary to the hitherto valid regulation, it specifies the basic structure of the system of balances, basic principles, and the process of formulating, approving and determining material balances, i.e., all basic attributes of the order of balances, including a resolution of disputes between suppliers and consumers. The solution of the system of balances is interrelated with economic contracts. The announcement offers an approach to a gradual implementation of the principle that the plan cannot be concluded and specified on any level of management without complete solution of the basic supplier-consumer relations essential for the fulfillment of the plan by a given organization. This is effected in particular by regulations implementing in the process of preparations of the plan more consistent solutions of disputes stemming from supplier-consumer relations.

[Question] You spoke thus far about the method used in the preparations for the plan. The set of measures, however, demands also introduction of certain correlations between the tasks and the tools of material incentives stipulated by the five-year plan for that particular year in relation to the proposals of annual plans. Will such correlations be applied also in the formulation of the plan for 1981, and if so, how?

[Answer] A distinctive common trait of all adopted measures is the effort for a more consistent organic unity of both main factors of management in socialist economy: planning and khozrashchot. By the same token, the procedure is such that the tools applying the factors of khozrashchot aid in the preparation of a plan that is both demanding and, from the objective and methodical point of view, of high quality; thus, they create preconditions for their own effective function in support of the most efficient fulfillment of the plan. The above-mentioned system of correlations between the five-year plan and the annual plans represents one of the areas of specific expressions of the linkage between planning and khozrashchot, and appears as a new factor in the system of tools of planned management. Its purpose is to support the proposals and the adoption of such annual plans that can surpass the essential qualitative tasks of the five-Year plan. Moreover, the above-mentioned correlations will provide a base for incentives for counterplanning as a decisive form in the organization of worker participation in the creation of the annual plan. The purpose here is to focus counterplanning on entirely specific tasks which are decisive from the point of view of a given organization and from the point of view of its significance for our society.

The plan for 1981 is being drafted on the basis of the instruction stipulated by the government, in a situation, where the basic directives for the preparations of the groundwork for the Seventh Five-Year Plan have been established. The function of the five-year plan and its tasks assigned for the particular year of the plan will be assumed, in the given situation, by the directive for the preparation of the plan for 1981, which, unlike the practice thus far, stipulates also certain new tasks (indicators) presicely on which the above-mentioned correlations are based. These are particularly the new standards for the regulation of the wage development, the tasks of profitability and earnings.

Correlations between the volume of the basic factor of wages and the adjusted added value, and between the incentive factor of wages and the profitability of funds of production are applied, and here the adoption of more profitable tasks is stimulated in direct proportion, while the failure to meet the tasks of the directive, and the failure to fulfill the plan are penalized on a progressive scale; if the plan is surpassed, reductions by a decreasing rate will be applied in its process.

Furthermore, the correlation between the volume of profits and the norm for allocations from profits to the fund for development is applied here; limited investments will be financed from that fund. Determination of the extent of this correlation is a factor in the stipulation of the norm for the establishment of the above-mentioned fund.

Also, basic percentage rates for the establishment of the fund of material incentives for exports have become more advantageous, or conversely, subject to greater penalties according to the regulation concerning surpassing, or failing to meet, export tasks stipulated by the directive for the compilation of the plan for 1981.

This solution applies specifically to the creation of the plan for 1981, however, it corresponds with the objectives of the adopted set of measures. Thus, it will make it possible to test in practice simultaneously the solution and the extent of correlations prior to their stipulation within the framework of the five-year plan.

[Question] You mentioned certain indicators newly stipulated in the directive for 1981, unlike in the practice thus far. How will the adopted measures be reflected in general in the system of indicators of national economic plans?

[Answer] Indicators expressing the tasks, limits and economic conditions stipulated by the plan are gradually being oriented so as to focus, in the "spirit" of the adopted measures, the activity of all levels of management in a more effective way on an efficient course in the process of reproduction, intensification of social production, better quality of goods and their necessary innovations, higher technical standards of production, lower requirements of funds, materials and labor.

The most essential measure in the system of indicators of the plan is the introduction of an indicator of the net-production type, namely, the adjusted value-added indicator, determined so as to contain basically wages, contributions to social security, profits, and depreciation of the capital. This indicator will serve to calculate efficiency, to express qualitative tasks of the plan, especially productivity of labor, and to control the development of a major part of wage funds. The replacement of the previously applied indicators containing also labor converted to material intends above all to intensify the pressures stressing economical management with fuels, power, raw materials and materials by their more advantageous exploitation, and to eliminate any possible speculative cooperation and production of lines of goods at a higher rate of material costs. Thus, this is one of the necessary preconditions for the application of the merit principle in the evaluation of the operations of organizations as well.

No indicator in itself can be free from problems and certain risks. This fact is valid also in case of the adjusted value-added indicator, whose application calls for a more responsible approach to the satisfaction of consumer needs, research and satisfaction of such needs in the plan and in its implementation. Different profitability of individual products must not lead to speculative selections of programs of production, and to the elimination of those goods from the program of production which the organization finds less profitable. It is expected that an important role will be played here by a better structure of norms, a greater emphasis on material incentives in the implementation of the planned structure of production, and furthermore, by measures in the area of supplier-consumer relations and in the contractual system, by increasingly better balances of material relations, and a stronger position of consumers. More fluent adjustments of wholesale prices, their improved creation and consistent control, with penalties for violations of the valid principles, and price stimulation linked with the technological level, quality and efficiency will generate here a more tangible effect.

Another important step, of course, is the introduction of additional indicators expressing the tasks of the growth of efficiency, such as profitability, material consumption per unit of production, productivity of labor, requirements of imported materials, etc. Moreover, the indicators of parameters of tasks in research and development, price limits of new products, the growth of per-kilogram prices of goods, etc., will have a more vital role.

Stipulated mandatory indicators expressing the share of first-quality products, technically advanced goods, fashion and luxury products, which will simultaneously receive preferential prices, will follow the trend to improve the quality of production and efficient innovation of the line of goods. The applicable system of penalties for inferior products, complementing "from the opposite direction" the pressures of the plan and of other tools aimed at production of higher quality, will continue to be applied and intensified.

The orientation of the indicators of national economic plans must be evident also in the control of the fulfillment of the plan and in the evaluation of operations of organizations. Basic criteria of the fulfillment of the plan must be the same indicators that express the qualitative aspect of the replacement of funds, the factors of its development, and the fulfillment of tasks benefiting our society. Thus, fulfillment of the stipulated structure of deliveries, tasks introducing the achievements of the scientific and technological development, tasks of higher efficiency and quality, etc., must become the focus of our attention. Naturally, a substantial change will take place also in the sense that the focus will now be on the criterion of the fulfillment of the five-year plan from its very beginning, which agrees with the role of the five-year plan as the basic form of planning and the organizational basis of economic operations on all levels of national economic management. Of course, by the same token the above-mentioned irreplaceable role of annual plans also excludes any weakening of our attention to the control of the fulfillment of those plans.

[Question] The adopted measures call for differentiation of the indicators of the plan and of all other tools of planned management according to specific conditions of the branches, the VHJ, and the enterprises. This, of course, cannot mean any differentiation that could weaken the growth of efficiencies in the tools of management. What are the procedures in the application of the adopted measures in this area?

[Answer] This particular problem is so much more complicated because the adopted set of measures does not specify individual solutions according to individual branches of our national economy, although in its general intent it applies to the whole system of national economy. This means that it must be introduced in every ministry, branch, sector and organization so as to achieve in their specific conditions in the most appropriate way its basic objectives, i.e., growth of efficiency and quality.

The primary task stipulated by the above-mentioned program for the elaboration and implementation of the adopted measures by all central organs of branches was therefore to draft, in cooperation with appropriate sectional central organs, a proposal for the system of basic indicators of the plan and other tools of planned management applied by their ministries. Such proposals were drafted and submitted in accordance with special instructions and on their basis, sets of tasks and limits are now being stipulated for the area of the plan for technical development, production and sales, capital replacement, availability of material supplies, labor and wages, and furthermore, tools of financial management and regulation of wage development. As for the tools of material incentives, indicators determining their creation were specified, with special consideration that their specific application help achieve the main objectives of the adopted measures within the given ministries. Determination of the systems of indicators of the plan and other tools used within individual ministries in relations between central branch organs and the production economic units (or other organizations headed by an organ acting as the middle link of the management) as well as stipulations of those system in particular will considerably affect the progress of the Seventh Five-Year Plan. Naturally, at the same time these systems will serve organs and organizations in individual ministries, including political organizational security, courses of instruction and training, and programs of comprehensive training of personnel, as the main point of departure for general elaboration of the adopted system of measures. According to the above-mentioned program of elaboration and implementation of the adopted measures, central organs of branches and of the regional national committees are expected to meet this task by mid-1980.

Such programs must involve another step in the differentiation and creative application of the adopted measures, especially as concerns relations within the VHJ and in organizations on their level. This is the largest area for the differentiation whose main purpose must be to express as accurately as possible specific tasks of controlled enterprises and other organizations, and to use to that end such tools of management as may also help assess merits in the most exact way, and accordingly, reward and stimulate whole organizations, collectives of workers, and individuals. This means not only specification of tasks stipulated by the state or economic plan of the VHJ, but also a shift of the more general indicators, applied in relation to the VHJ, toward more specific indicators applied in relation to enterprises and within enterprises. The application of units of labor consumption in wage regulation may serve as an example. It is not impossible that in certain instances such solutions may assume the character of an experiment serving to test their suitability, requirements and pitfalls. The set of adopted measures is an open solution, in other words, all links of management have the duty to seek, find and apply increasingly improve ways and means of achieving the desirable objectives. All links of management will participate in the continuous process to improve planned management mainly in this way.

[Question] You have mentioned several ways which have been initiated, or must be initiated, in order to implement the adopted measures, particularly in terms of the plan in its unity with other factors of planned manigement, above all, in consolidation of the function of the khozrashchot principles. From that it follows that the role of the plan as the basic tool of management has been further boosted and that, at the same time, the regulatory functions of the five-year plan have been markedly strengthened on all levels. Of course, this imposes new, greater demands on all workers participating in the preparation of the plan. In which main directions?

[Answer] The more enhanced role of the plan in the process of management has made considerable demands most of all on its objective, methodological quality. The set of measures includes in itself several specific tasks and methods to raise its methodological quality, particularly by more consistent coordination of the plan, by supporting the plan with a set of norms, by focusing the indicators of the plan and other tools of management on the aspects of quality in replacement of funds, and moreover, by improving the specification, implementation and control of the fulfillment of the plan. Here it is necessary to insist that those tools be systematically applied in order to achieve the methodological quality of the plan, so that the plan be far more consistently justified and implemented, particularly in terms of the factors of its internal proportionality and balance.

Naturally, at the same time it must be realized that planning is a decisionmaking process, in other words, a process expressing the irreplaceable role of the people. The new indicators of the plan focusing on the aspects of quality in capital replacement and their introduction cannot be regarded as mere substitution of one kind of indicators for another. This means an expression of new criteria requiring a change in the comprehensive approach to the decisionmaking process, where efficiency and quality must serve as the main point of departure for each worker on every level of management. We must constantly be aware of the fact that "planning is not done by the State Planning Commission alone" and that the quality of the plan on every level of management depends on the quality of all other levels, in both directions, up and down.

Moreover, we must realize that the plan is the basic tool of management, which does not, and cannot, imply that it is enough to manage by the plan; it is necessary to manage according to the plan. The plan serves as a tool to study and express the needs of our economy, although it is not in its power to determine specifically the extent, place and time for the satisfaction of all such needs. Thus, it is not enough to do only what the plan specifically stipulates; it is necessary to proceed according to the plan, even though the plan may not directly and individually determine how a particular organization should proceed in this respect. The practice thus far is quite remote from this approach. How else could it be that, although certain chronic bottlenecks, let us say, in technical material supply, are a common knowledge, organs and organizations have often directed the funds allocated there by the plan in a general way (without greater specification) anywhere but to unclog such bottlenecks.

Thus, the adopted measures do not merely change the regulations and individual economic mechanisms; that would mean that we deny the decisive role of mature economic management in our socialist society and its proponent, i.e., the politically, professionally and morally mature man. This involves substantial changes in approaches; the criterion of social efficiency must become the principal motivation in the decisionmaking process on every level of management, for every leading worker, in every place of work. Economic mechanisms may, and must, help in this respect; however, they cannot ever replace the decisionmaking function which requires the human factor. Thus, we are coming back to the starting point of our discussion--to the significance of the mobilization of all workers in order to make them understand and consistently achieve the objectives of the adopted measures and the ways to fulfill them.

Determined Implementation Urged

Prague PLANOVANE HOSPODARSTVI in Slovak No 5, 1980 pp 14-21

[Article by Engineer Vladimir Janza, Minister and Chairman of the State Planning Commission: "For Consistent Implementation of the Set of Measures For Improvement of the Planned Management System"]

[Text] I. An Objective Demand--To Improve the System of Planned Management

An objective assessment of the results of our socioeconomic development in recent years indicates that the economic development and the growth of the economic potential in our country continue further even under conditions of an essentially more complex development in the world economy. This has been confirmed by the following facts:

--the increase of national revenue by Kcs 72 billion, i.e., by roughly 17 percent over 1975;

--the growth of the industrial production by approximately 21 percent, of construction production by 24 percent, and of agricultural production by 7.6 percent despite the unfavorable weather conditions during this period.

The structure of our industrial production is changing in the positive direction (the share of production in the machine engineering and chemical industries is growing), in agreement with the progressive trends in world economy. We invested approximately Kcs 560 billion in expansion of our fixed assets and put into operation a considerable volume of new fixed assets.

Our positive accomplishments in the area of material production again made it possible to raise the standard of living of our population. In this period, total incomes increased 18 percent, of which average wages by 12 percent. With the rise of incomes, personal consumption of our population and retail sales also increased. Current consumption of basic foodstuffs per citizen placed our economy among the foremost in the world. Our society allocated considerable funds for social consumption whose current volume amounts to roughly Kcs 135 billion, which is approximately Kcs 8,800 per citizen. We built about 525,000 housing units. The increment in the number of housing units per 1,000 citizens ranks us with the first among the industrially developed countries.

These facts about our economic development in recent years are indisputable.

Such positive achievements in our economic development must be taken into consideration when assessing the past as well as when discussing the areas where we wish to achieve better results in the future. We are, therefore, critically demanding when evaluating certain shortcomings in our economy, We compare the results achieved with better ones, seek solutions, and create space for more rapid growth of our economy. Naturally, this must not imply any depreciation of the positive aspects achieved in the development as a result of great efforts and honestly performed work.

The economic development over the past decade has made it possible to identify, next to its positive aspects, also certain negative tendencies chronically hindering more rapid growth of Czechoslovakia's economic potential. Those tendencies may be divided into two groups:

--the failure to meet structural objectives and to fulfill the five-year plans;

--the failure to achieve the planned targets of an efficient economic development.

The former group is characteristic for its failure to achieve the objectives of our plants mainly in the structure of production in industry, construction and agriculture, and for its failure to meet the planned structure of consumption in production, or as the case may be, for its failure to achieve the structure of sales envisaged by the plan. Analogical tendencies are evident in the area of the process of investment, where the structural target of the investment plan has not been successfully reached, which has unfavorably affected the timetable for the construction and introduction into operation of the needed capacities which address themselves to problems such as savings, productivity of labor, export, anti-import as well as internal needs of our economy. No less serious are the structural problems in the deployment of the labor force in our economy. In terms of its structure, the labor force, particularly skilled manual workers, leading workers and technicians, have not been advantageously deployed in national economic areas and branches, and also within individual branches, which is detrimental to the development of productivity of labor, the use of capital, etc.

The latter group of negative tendencies is evident from the inadequate intensification of our economy and from the inadequate development of efficiency, most of all:

--in underutilization of energy, raw materials and materials, which is in turn reflected in the high consumption of energy, raw materials and materials in our economy;

--in the failure to achieve desirable returns on funds newly invested in our economy, and in underutilization of the existing fixed assets;

--in an insufficient growth of labor productivity, even with essentially more rapid growth of equipment made available to workers, particularly machinery funds;

--in an unfavorable development of exchange rates in foreign trade, which leads to the necessity for more rapid growth in the physical volume of exports.

At present, we are working most intensively on the solution of conceptual problems of the economic development in the Seventh Five-Year Plan and beyond.

The contents of the economic development, in other words, the structure of production, balanced development of individual branches and sectors of production, directions in the structure of investments, deployment of increments of workers in branches of national economy, direction of technical development, directions of the consumption of production, the structure of exports and imports, etc., are questions to be dealt with rationally while preparing the five-year plan.

The present situation of operations indicates that in their sum total, the conditions for the economic development in the future years, and their objective, realistic evaluation are proof that we will have to decelerate the dynamism of our economic development as compared with the preceding five-year plans. In spite of a less dynamic growth, the implementation of the proposed economic development will depend to a large extent on our successful valorization of limited material inputs, on the relative savings we can achieve in their consumption, on more thorough exploitation of the existing potential of fixed assets and of labor force. Thus, it appears that the tendencies and directions of the economic development over the past years, which could not be rated as most successful, are the only possible basis for the solution of our future economic development and for the maintenance of the already achieved standard of living. The dynamism of the creation and exploitation of resources to which we have advanced thus far in our work should mark the bottom line, because any further deceleration would mean that the already created base of production and technology and potential sources of our labor force are stagnating. On the contrary, we must exert great efforts and gradually master the progressive tendencies of the development, so as to become more efficient in creating preconditions for surpassing the creation of resources in agreement with the objectives of the plan for their consumption, as the current standard of living and the objective necessity of its reproduction demand. The essentially negative impact of the world economy and the maintenance of the standard of living call for substantial upgrading of the task of intensive factors in the economic growth.

The sum total of these conditions which determine the future development of our economy is the main reason for the objective necessity to improve the system of planned management. "The set of measures" fulfills this objective demand of our time in three basic aspects of the system of planned management:

--by improving the preparation of the plan and the methods of planning;

--by more intensive and planned exploitation of economic tools, and by emphasizing the khozrashchot relations in economic management;

--by better organization on individual levels of management.

II. Improved Preparation of the Plan and of Planning Methods

The following must be regarded as the most important measures aimed at better preparation of the plan and of the methods of planning:

--a more important role of planning for the future, and development of organic continuity between the long-range outlook, the medium-range plan, and the implementation of annual plans;

--boosting the role of the five-year plan by correlating its vital tasks and directives for material incentives; exploitation of counterplanning in the preparation of annual plans as a form of involved participation of the working people in the preparation and implementation of plans for socioeconomic development;

--emphasis on the qualitative aspects of production in the system of indicators of the national economic plan, valorization processes, exploitation of the existing potential of fixed assets and of the labor force, quality of production, export potential, barter relations, etc.;

--improvement of quality, better proportionality of the plan, improvement in the balance system and management, basic directives, supplier-consumer relations and economic contracts.

1. Intensification of Future Planning, and Relations of Individual Plans

More material targets in the changes of the structure of production, scientific-technical development, better representation of the CSSR in international division of labor and in other areas may be planned and implemented on the basis of long-range programs. This generates the demand that the long-range planning system be intensified, the program-target approach in long-range planning stressed, and thus, conditions established for long-range growth of efficiency, according to long-range needs in the development of our socialist society and economy. Measures to improve long-range planning are intended to prepare a long-range outlook for the socioeconomic development up to the year 2000. The purpose of the long-range outlook is to identify basic directions in the development of our society and their economic and scientific-technical preconditions up to year 2000, the formulation of long-range comprehensive programs, and long-range concepts for the development of the vital branches in our national economy and the creation of preconditions necessary for the coordination of the economic development with the CEMA countries. The new interpretation of the contents of such efforts will require more intensive participation of the scientific centers as well as of the central organs. At the same time, the long-range outlook cannot represent a mere sum total of not entirely realistic wishes; it must contain also realistic economic options, in other words, their mutual confrontation.

Preparations of the long-range outlook must be developed and organized as a continuous process of study of economic conditions developing in our society. The five-year plan will implement specific objectives of the economic development over a given period of time.

One of the most essential measures in the system of planned management is the basic change in the role of the five-year plan based on the fact that the five-year plan will become the basis for the determination of the objectives, limits and tasks of the economic development, and thus, it will represent the basic organizational form in economic activities on all levels of management. The five-year plan will specify the tasks, limits and other economic conditions for individual years of the five-year plan.

It is assumed that the emphasis on the role of the five-year plan will gradually eliminate the short-range approach to the solution of economic tasks and to the evaluation of the results of economic programs. Frequent changes of the objectives of the five-year plan in annual plans resulted in "overloading" economic organizations that have successfully met their five-year plan, and on the other hand, in "unloading" the tasks of those organizations that failed to fulfill the tasks of their five-year plan. This practice often led to "thorough" fulfillment of lesser tasks of the plan, to withholding of the reserves in the growth of production and efficiency, and occasionally to unreasonable spending of funds designated to cover the planned needs.

The main purpose of annual plans is to implement the objectives and tasks of the five-year plan. This does not diminish its role; their creation will be based on tasks, limits, tools of material incentives and other economic conditions stipulated by the five-year plan. The tasks of the five-year plan and the tools of material incentives stipulated by the five-year plan for a particular year will contain correlations established so as to favor adoption of higher, particularly qualitative tasks of the annual plan, or as the case may be, so as to penalize the failure to fulfill such tasks.

The newly established relation between the five-year plan and the annual plan will provide a basis for the so-called counterplanning. According to the five-year plan, economic organizations will draft and specify their proposals for annual plans. Economic tools will stimulate the more progressive plans, and conversely, penalize nonfulfillment of five-year plans in a given year.

In this respect th method for evaluation of the fulfillment of the plan is changes as well, with primary focus on the fulfillment of the five-year plan.

The emphasis on the role of the five-year plan and its correlations with annual plans calls for improvement of its quality on all levels of management. This task is so much more demanding because of considerable complexity, a lack of stability of economic conditions abroad and their serious unfavorable consequences for our economy have now become evident. It is necessary to react consistently and promptly to new conditions in the development of the world economy, so that we may overcome their harmful effects. The effort to achieve a long-range effect of the tasks of the five-year plans does not imply absolute immutability of their tasks. Economic organizations must react more vigorously to changing domestic needs and to the conditions of world economy. Obsolete and obsolescent economic organizations cannot expect any "solid" concessions. Prosperity of economic organizations, or a lack thereof, will be reflected in the volume of grants and funds that may be supplemented from central resources only in exceptional and specific cases. There will be no so-called "security" for economic organizations and "insecurity" for central organizations in terms of their potential to resolve the proportionality and balance of the economic development by systematically maintained harmony of resources and needs.

In order to improve the methods of planning, it is necessary to plan detailed comprehensive long-range programs and state target programs.

Comprehensive long-range programs which will be developed in the framework of preparations of a long-range outlook must express in appropriate correlations the main macroeconomic qualitative changes in economic and social development based primarily on application of the achievements of scientific-technological development and on an intensive and effective involvement of Czechoslovak economy in the international division of labor, especially in international socialist economic integration.

State target programs, which will be drafted in the framework of the preparation of the five-year plan, will include objectives for the implementation of basic structural changes in economy, tasks in their implementation, and directions for the application of the achievements of the scientific-technological development, measures adopted for the achievement of international socialist integration, and measures for rational economic management of material resources. Their preparation and specification will be organized so as to control comprehensively all essential correlations included in the plan, and particularly, so as to make them highly efficient in every respect. In this they differ substantially from the so-called development programs.

2. Focus of the Plan on Qualitative Aspects of the Process of Reproduction

Another essential measure aiming at better preparation of the plan and of planning methods is a basic change in the system of indicators of the national economic plan. In this context, the 15th CPCZ Congress stipulated the task to improve the indicators of the plan so that they focus more efficiently the activities of the organs of economic management on all levels on an efficient course in the process of reproduction, on better quality of products and their necessary innovation, on higher technical standards of production, and on lower requirements of funds, materials and labor.

The most significant measure in this respect is the introduction of the value-added indicator, containing basically wages, contributions to social security, profits and depreciation of fixed assets. The value-added indicator will be used to regulate the development of a decisive part of wage funds, and simultaneously, to calculate efficiency and to express productivity of labor.

Substantial changes were made in other parts of the plan either by the introduction of new indicators, or by an emphasis on the role of the existing indicators. The plan of production will contain indicators characterized particularly by the following:

--the quality of production (the share of technically advanced goods, goods of first quality, etc.);

--the structure of the consumption of production (sales), as, for instance:

--deliveries for export to socialist and nonsocialist countries, classified gradually according to decisive sectors, and according to territorial differentiation;

--deliveries for domestic market;

--deliveries for capital investment, gradually according to decisive sectors of production, and divided into deliveries for construction projects stipulated as mandatory tasks of the state plan, and deliveries for construction projects with budgeted costs of more than Kcs 2 million;

--furthermore, indicators characteristic for the quantitative aspects of production, such as:

--production of selected goods in material units;

--the extent of production in new capacities (in volume or material units), etc.

In addition, the plan of production contains a plan for material assurance of the production, which contains material balance accounts and norms of consumption of essential products.

The plan of capital investment will include, among other things:

--technical economic criteria for investments financed from the fund for development;

--programs of modernization and reconstruction;

--programs of liquidation of the capital;

--schedule for introduction of installations into operation.

The set of measures pertaining to this area requires conditions for more advantageous exploitation of existing capacities rather than for building of new capacities, and in terms of investments, achievement of objectives in the most efficient way, i.e., by modernization, exploitation of the potential for international specialization, introduction of top technology at the lowest cost and with realistic assurance of available manpower for new investments.

More demanding criteria must be used when preparing the investment plan, or when selecting investment programs in agreement with the needs of the development of the national economic structure. By the same token, far superior achievements are envisaged in terms of the equilibrium of capital replacement and manpower, balance of essential supplies and works in the structure, area and time, particularly in construction projects designated specifically in the state plan.

The plan of operations calls for:

--indicator of productivity of labor, expressed as added value;

--limit of the absolute number of workers, etc.

Naturally, economic workers must drastically change their approach to the issues of productivity of labor. The indicator denoting productivity of labor cannot merely present numerical results of production, or as the case may be, the volume of added value and the number of workers. It is necessary to analyze in detail individual factors of the growth of productivity of labor, to specify accurately the measures for their full utilization, and thus, to achieve more rapid dynamism of labor productivity.

A fundamental change must take place in the section of the plan concerning the scientific-technological development, particularly in the section dealing with the application of its achievements. The results of the application of science and technology must be reflected specifically in such indicators of the national economic plan as productivity of labor, material savings, exportability, etc. For that reason, it is envisaged that the share of scientific-technological development in the dynamism of those indicators of the plan will be numerically expressed. This should make the scientific-technological plan the hub of the national economic plan.

The financial plan will contain the above-mentioned indicator denoting profitability of the funds of production, characterizing their application, and several other indicators characterizing the level of economic management expressed in financial terms.

The system of indicators of the national economic plan is stipulated in the unified methodological instructions for the preparation of the Seventh Five-Year Plan. The correlation of the creation of funds by an economic organization with numerous--particularly (but not exclusively) qualitative indicators is of vital importance in the system of indicators.

By the same token, it is essential that the indicators of efficiency and quality of the nonproduction process do not develop as a passive outcome in the process of production. Just the opposite--they must have a powerful effect on the management of production, on the level of material consumption, on the requirements of funds of production, etc. Indicators of efficiency must convert the process of production to more efficient economic management; they cannot be subject to current practices.

3. Improved Interrelation and Coordination of the Plan

Improved quality of the plan is contingent on its interrelation and on a comprehensive solution of all its most important tasks. Measures whose main purpose is to establish a unified system of balanced values, particularly structures and sales, and consolidation of the system of material balances on all levels of management are oriented in that direction, which at the same time strengthens the function of the system of balances and import-sales management. The purpose of the measures is to consolidate supplier-consumer relations in the process of the creation and implementation of the plans and their contractual guarantees.

It has been envisaged that the obligation to conclude long-term agreements based on the five-year plan will be expanded, which will help achieve more stable supplier-consumer relations, especially in the area of capital investment, supplies of semifinished products, etc. Conditions of obligatory economic contracts and material penalties in cases of violation of contractual relations were made more stringent.

The improve system of norms regulating the performance, technology, consumption of raw materials, materials, power, etc., will enhance the quality of the plan. It is furthermore envisaged that long-range programs processing technically warranted norms will be specified in detail.

Although material balances have been substantially expanded on the level of the state plan, it would be erroneous to regard this measure as a basic direction for the solution of proportionality of the plan. A harmonious development of production and its material backing must be maintained by necessary objective measures, whether it concerns resources or consumption. This process must affect every level of management, not only the center.

In terms of better preparation of the plan and of methods of planning, the set of measures represents the main direction in enhancing the efficiency and the authority of the plan. Our people, especially leading economic workers on all levels of management will fulfill and implement these measures. Therefore, the contents of the measures must be thoroughly implemented; current habits and routine approaches cannot be tolerated. Criteria with higher principles must be used in planning operations when evaluating the results of planning.

III. Enhancing Responsibility of the Economic Area by the Application of Khozrashchot Relations

An integral part of the Set of Measures consists of improved khozrashchot relations in the economic area, of a greater emphasis on the responsibility of the middle ranks of management, and assessments of economic results according to the fulfillment of their tasks, particularly the qualitative ones, as stipulated in the five-year plan.

In conjunction with those objectives;

--the role of financial resources owned by the economic area is stressed when expanding the production; efficient creation and use of the funds of the VHJ and enterprises are intensified. Funds will be created according to norms and according to the fulfillment of tasks planned for the five-year plan;

--the system of creation of wage funds has been substantially changed. A major part of wage funds will be determined by the value-added indicator, and another part (incentive) according to the fulfillment of essential indicators of quality in agreement with the tasks of the five-year plan.

--the system of creation of wage funds has been substantially changed. A major part of wage funds will be determined by the value-added indicator, and another part (incentive) according to the fulfillment of essential indicators of quality in agreement with the tasks of the five-year plan.

Next to a brand new method of creation of wage funds, qualitative criteria in their allocation must be applied more consistently, so as to emphasize primarily the principle of merit of individuals as well as of individual working collectives.

The consolidated khozrashchot principle in management will be distinctly reflected particularly in investment programs, not only in gaining new investments, but in the entire capital replacement system. With this in mind, grants from the state budget to investments will be substantially reduced, and financial resources created by enterprises and the VHJ, or bank credit, will have a major share in financing of the investments.

Organizations will participate to a greater extent in financing their planned needs from their own resources, which is intended to intensify the pressure of merit tools of management on an efficient creation of financial resources, and to enhance the responsibility for their management and use. The results of the VHJ and enterprises, including resources and material incentives, will depend to a major degree on the exploitation of existing capital, on the economical management of supplies, and so on.

Our party organs and our government have recently reviewed and approved the directives for the planning of the five-year plan. It is a challenging program for the socioeconomic development of our national economy in complex domestic and foreign conditions our economy is facing. The program for an improvement of the system of planned management of our economy was also approved. Thus, comprehensive preconditions were created for the extensive work on preparations for the Seventh Five-Year Plan. Considerable effort and dedication will be needed to master them.

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CHANGES IN ECONOMIC CONTROL DISCUSSED

Warsaw ZYCIE GOSPODARCZE in Polish No 22, 1 Jun 80 p 8

[Article by Mieczyslaw Mieszczankowski: "More About Changes in Control"]

[Text] In my last article (ZYCIE GOSPODARCZE No 2, 1980) I discussed in greater detail the preconditions of changes in investment, price, and wage control. Now I would like briefly to point out the changes in the other major elements of the self-financing system, that is, changes in the control of production, technical progress, and foreign trade. Then I would like to focus my attention on the institutional, organizational, and other factors upon which success of the changes in the control of the economy to a large extent depend. Of course, the proposals given will be only directional in nature.

The basic mass of production must remain under the control of the enterprises and their organizations. There is a great concurrence of views on this subject, because it is obvious that with a highly developed production apparatus, the sphere of the control of production by directives cannot be very great. But this issue is often dealt with in an extreme way in the papers given at conferences and in discussions. According to this extreme view production directives should be joined to the instruments of central control in the 1980's (alongside export tasks, instances of ad hoc distribution, and a wide sphere of standardization and quality control). And again the advocates of these hypotheses do not seem to take into account the arguments which show that the central office should maintain the right to make conditions concerning standard production and certain item assortments (necessary to carry out priority tasks).

At the same time we can imagine that such a defined sphere of direct control by the central office in the major areas of the self-financing system should not impinge on the regulations of this system's functioning in the parts of its intermediate control. It is to be imagined that both of these parts can be fully coordinated, and, what is more, such a sphere of direct control is to a large extent the condition sine qua non for the effective functioning of the instruments of indirect control. This applies in particular to prices, which, unless they are under the control of the central office, at the present stage of our economy's development make the effective functioning of this mechanism impossible.

We can also expect silence from the voice of criticism which says that such a sphere of direct central office control excessively restricts the enterprises' independence and prevents the system from operating effectively, precludes increased management efficiency, and so on, but reservations of this type do not seem justified, because in fact for the enterprise the basic issue is the ability independently to direct and manage production, to upgrade production, and to improve production quality and to have an adequately effective incentive system to insure increased labor productivity and management effectiveness. But these conditions can be fulfilled in the above-mentioned sphere of direct control by the central office. Of course, if this sphere is not expanded, so that it hampers the enterprises' operation through an increased number of limits, directives, and so on.

Probably the greatest amount of misunderstanding has grown up around the problems of technical progress. Both in theoretical solutions and in applications it has been assumed that a departure from the use of directives in managing the economy and the structuring of the parametric control of the mechanism of the functioning of the economy thereby insures incentives for a constant rapid rate of technical and organizational progress. Unfortunately, this matter has not been viewed at closer range, but we can imagine that it has been presented all wrong, because the creation of an effective system for control of the socialist economy at the present stage of its development in no way means thereby that an economically effective mechanism of technical progress has been created. This is a short justification of this hypothesis.

In the contemporary economy, five elements or factors go together to make up the economic mechanism of technical progress: 1) Intra- and interbranch competition, which is a factor forcing technical progress. This factor does not operate in our economy. Practice has shown that it does not work in the area of the production of commodities where a buyer's market exists either. 2) The existence of the buyer's market is an important factor giving encouragement for the introduction of market novelties and hence for the inculcation of technical progress. On the other hand, for the greater part of commodity production there is no buyer's market (and will not be one soon), to say nothing about a saturated buyer's market. In addition, the absencee of the first element means that even given the existence of a buyer's market, the producers would not try to fight to keep it or expand it by introducing new or improved products. 3) The element of international competition and exchange is a very important factor which encourages technical progress, but the share of imports which are consumer goods for the market has not been very broad up to the present time. These goods are treated as luxuries and generally do not serve as an incentive to produce goods of a similar standard (and hence also to use new production technology). A far more important role is presently being played by the development of exports, which forces us to use modern engineering and technology, because without them there is no way to attract buyers on the foreign market (of course, we are not talking about exports of raw materials). 4) Incentives of a financial nature included in the system of enterprise management and planning cannot be strong enough (as in the capitalist enterprise). At the foundation of this is the fact that the production goal of our economy is not the maximization of profits. We cannot create very strong financial incentives in the sense of very high bonuses for the management of economic units as a reward for the development of their enterprises through the application of new engineering and technology. 5) Finally, in a socialist economy the factor which forces technical progress under the threat of bankruptcy does not come into play, and the substitute of personal sanctions can play an incomparably smaller role than in a capitalist economy.

The endogenic mechanism of technical progress in our economy cannot therefore be of adequate influence at the present stage. It is true that its various elements will acquire this force (especially the international exchange factor) and surely the financial incentive factor will too, but at the same time there will still be in operation factors which give preference to the implementation of other tasks (net production growth in the annual period, and so on) over the autonomous inculcation of technical progress. For this reason, without in anywaway underestimating the value of this mechanism, we should place our main attention on the organizational-financial factor of technical progress, on the socialist state and its economic organizations, assuming that they have been, are, and will be the major basic element for the inculcation of technical progress in the socialist economy.

Nobody denies that the area of basic research should be under state control (as it is all over the world). And also undisputed is the question of what is called small technical progress, which has belonged and does belong to the control of the enterprises, but we should create the conditions to make it necessary for the enterprises constantly to upgrade the technical level of production and to improve the parameters of goods already being produced. Open to discussion is the question of what is called large and intermediate technical progress. The above comments would show that it should remain under direct state control and the control of its direct economic bodies. Its inculcation should have to a large extent the nature of directives, of course with self-financing assurance, including incentives, of the conditions for this inculcation. Such a sphere of control by the central office would be closely correlated to the sphere of its control in the investment area. This is understandable, because technical and technological progress are closely related to investments, both new ones and restitutional ones.

Owing to its specific nature, we are not going to discuss foreign trade in any greater detail. Everyone knows that because it is a state monopoly it will always be under state control in the realm of the regulation of imports and the setting of the sizes of exports. It is understandable that just about the whole issue of foreign credit will stay under direct state control. We will add to these general statements one more specific remark. It is agreed that there is a need to bolster the influence of the parametric factors which stimulate increased exports and foreign trade effectiveness, but at the same time it must be emphasized that a very basic parameter, foreign exchange conversion factors, must be fully objectivied (like the prices of goods on the domestic market). Foreign exchange conversion factors cannot therefore be open to bargaining. They can and should be thoroughly analyzed and negotiated by the interested bodies, but the decision as to setting their level should be reserved to one of the functional bodies of the central office. This is a condition for the parametric part of the foreign trade control system to be able of operate efficiently.

Summing up, the central office's sphere of control in the realm of the major components of the economic system described in this (and the last) article would mean strengthening its role in the control of economic processes and at the same time would insure the proper functioning of the parametric elements of the economic-financing system, adequate for the current stage. At any rate it is not necessary on the other hand to describe authoritatively this or that designated sphere of the central office's sphere of control in this area, in order to be able to draft the structure of the mechanisms of indirect control of the economy.

A discussion of issues related to the structuring of the major components of the economic-financing system shows indirectly the directions of the applications, but these are only directions. Their concretization calls for the staff work of experts and, equally important, proper organizational preparation. Stating again that the purpose of this article is not to state concrete organizational concepts, I should nevertheless like to point out that the strengthening of the central office's role in these areas requires perforce certain changes in its institutions.

While we are calling for the central office once again to have fuller control over prices, we should mention at the same time that the implementation of this postulate is directly related to the strengthening of the machinery where these prices are to be controlled.[1] It may see paradoxical that the present state bodies controlling prices are not anxious to react to the postulate that their jurisdiction be expanded. This is probably because the previous staff of their apparatus could not cope with these tasks. Similar postulates and remarks concern the state bodies which put the stamp on production quality.

The bolstering of the role and bodies of the centra e in the realm of the regulation of investments is already partially in the course of being carried out. An institution of state exports on investments has been created. The bank machinery has eliminated the phenomenon of what were called wild investments. At the same time one can suspect that the echelon of the bank which finances investments needs strengthening. Consideration also needs to be given to returning to the concept of having commissions give their opinion on investment projects. (This would be the logical consequence of creating the above-mentioned bodies of experts). There has also been put forward the postulate that the production investment part of the credit plan be treated as an integral part of the state budget and be ratified by the Sejm.[2]

As far as the regulation of the wage fund by the central office, the main issue is the establishment of standards for the share of net production devoted to wages (according to a growth or share formula). The setting of these standards must in no event be the subject of bargaining, as has happened in previous years. We can say that the central office has the possibility of objectivizing these standards and eliminating the major defects related to the way they used to be set. The central office would establish the principle for shaping these standards and set the upper limits for the various subbranches. At the same time, within the framework of the ministries pertaining to subbranches, it is essential to bolster the units employing experts and specialists who would translate the standards into concrete form for the various industrial associations. They would also handle the problems of the systems for providing incentives for management personnel, with differences from one sector to another on the basis of the specific features of each one. The development of such systems adequate for the various subbranches is not after all an easy matter but is developed in the course of many years of collecting experience, making corrections, and improving these systems. (Examples of western firms and corporations show this).

The area of technical progress has strictly speaking never had its central coordinator. It is understandable that the area of basic research would be under the jurisdiction of the Ministry of Science, Technology, and Higher Education, but after all this does not resolve the problem of central control of what is called large and medium-sized technical progress. This question has been the subject of more than one conference and meeting, and we can express the conviction that the demands to create a central body (but not patterned after the old Science and Technology Committee (KNiT) to coordinate the area of the development and inculcation of technical progress are still timely. This body, which would operate for example under the auspices of the Planning Commission and would be endowed with the appropriate authority, would be the staff to control the whole shape of progress in a given area. It must also be added that so-called small technical progress, of its very nature, would stay under the control of the enterprises and also requires organized assistance, particularly in relation to the medium- and small-sized enterprises, which do not have the possibility of using the services of their own research and development centers or technical institutes. This help could be provided in the form of an enterprise patterned after the already famous Posteor in Wroclaw. Unfortunately the POLITYKA award called "Yeast" was not a slogan calling for the quantitative development of enterprises of this type. Postulates of this sort, after all, have been stated for a long time.

I should also like to mention that the reflex against the postulates that the personnel and staff of the central office bodies be bolstered would be unjustified. An increase in the number of experts and specialists employed in these bodies would prove overall to be very profitable and would be an important factor in increasing management effectiveness.

It is understandable that organizational changes cannot be limited merely to the echelon of the central office. It is probably agreed that general unification according to the principles of the system of large economic organizations, or WOG's, would not be justified, because the system of relationships which should operate in the economic units of aggregates of this type is different from that which should operate in units whose production is less concentrated vertically. In the latter, the sphere of enterprise autonomy within the framework of the industrial associations should be far greater (for example, the textile industry, clothing industry, and so on).

Another important question is that of the role of the ministries pertaining to branches. Under the conditions where the parametric planning and administration units have a broad sphere of operation, their "subbranch functions" would not have much weight. In fact they have become main offices of conglomerates concerning themselves only with the interests of their own subbranch, but from this fact we should draw conclusions and treat these ministries as super subbranch central offices which are not bodies of the main central office (Centrum) in a strict sense (that is, functional ministries, state commissions, and so on). This would imply a different distribution of authority and jurisdiction between the main central office and the subbranch ministries, one which would restrict these ministries' direct influence on decisions of a general economic nature. At the same time this separation of the subbranch ministries from the main central office would give a special kind of immunity to its responsible employees and protect them from the pressures of special interests.

Changes in the organizational structures are also much needed within the framework of the industrial associations and enterprises. In order to increase the independence of the enterprises it is necessary to increase the importance and responsibility of the director, or, more broadly speaking, the management of the enterprises. Not too long ago a drive was correctly introduced to expand the rank of the foreman, but the same thing should happen with the director, in several different aspects, although this does not require any special drive. We cannot tolerate the situation attested to by numerous studies, that in which a director who "requires little and gives much" is considered "good" in relation to the workers. The responsibility of the enterprise administration vis-a-vis higher units it not satisfactory either. The consequences of poor management are minor or absolutely minimal. This is closely tied in with the question of associating the principle of joint action with management by a single person. Practice shows that this association leaves much to be desired. Although it is understandable that decisions must be prepared jointly and sometimes reviewed at several levels, this must not mean that the very making of the decision is dispersed over many groups and still more people. But up to this time this is the way it usually happens, and in the situation of poor decisions which have produced economic losses, it is not easy to determine who the person at fault is.[5]

By the nature of things these matters are tied in with the sociopolitical structures of administration. We should assume that the implementation of the directions set down in the economic plans for development are guided by the economic central office, which oversees the current execution of tasks and the functioning of the system (making appropriate parametric corrections and so on), and the ministries pertaining to subbranches handling matters within the framework of their jurisdiction are responsible for the results of operation and, in cooperation with the central office, are "settled" by the central political authorities. This would be important not only in the sphere of operations and management but also in the sociopolitical sphere, meaning the elimination of shifts in social authority for inefficient management of various groups to the whole system and its political authorities. This should after all apply both to the scale of regions and to voivodships and lead to a clear division of control, close adherence to the sphere assigned them, and enforcement of responsibility for the outcome. The phenomena of various sources of economic decisions which occur frequently should be eliminated. This is an important condition to the bolstering of economic authority on all levels and therefore to improving the system of management of the economy.

The success of changes in guiding the economy depends not only on the correct construction of the self-financing system and appropriate institutional and organizational changes for it, but also many other factors, of which we can mention only a few of the more important ones.

Most important is the matter of achieving general economic balance and the related elimination of constant price changes and the wage-price spiral. Under the conditions of a planned economy with more or less constant price changes, as I pointed out in my previous article, the self-financing system cannot operate properly, because its components are not flexible enough and the price changes lead to a breakdown of the system. Then cost effectiveness is made difficult, the labor productivity incentives are weakened, and not enough attention is given to economic effectiveness.

No less important an issue, as many economists point out, is the orderly organization of the labor and wage front. It is a question of widely conceived rationalization of work, the reduction of employment increases, limitations on turnover, increased work discipline and the more effective use of work time, the revision of for the most part outmoded work standards and rate scales, and improved principles for rewarding and giving bonuses for labor productivity. I will not expand upon these issues, because they have been discussed many times in the pages of ZYCIE GOSPODARCZE. I am emphasizing that unless these matters are put in order and resolved, the economic system as a whole will not be able to operate efficiently and that, at the same time, they have tremendous significance in accomplishing the course for improved management efficiency.

Closely tied in with these issues is the question of the scope of changes in the self-financing system. Up to this time the modifications in this system have been limited to the management level, in the broad sense, of the economic units, but it is also a question of their being able to be drawn "downward," to the departments, work teams, and other units of the enterprises. This is not an easy matter and can be included into the stream of work only on a gradual basis. Nevertheless, even in 1981 the first steps can be taken. The work team or other production group could take part in the results achieved from savings through thrifty use of raw materials and other materials consumed. We should also consider the concept of encouraging increased productivity from the work of groups by making their wage increases dependent both on a reduction in the number of people in the groups and on the results achieved in the management efficiency by the whole group of the enterprise.

Finally, the drafting of adequate systems solutions for the current stage of our economy's development does not yet mean that their operation can quickly produce visible results in the improvement of management efficiency. The limiting factors in the next few years, those with an exogenic nature, will be in particular the difficulties to be faced in the sphere of energy, transportation, the balance of payments, and gaps in the food balance, the elimination of which is a matter for many years' work.

We should also warn that even with a well-running self-financing system and the institutional-organizational changes to fit it, along with the easing of the bottlenecks in the economy, this still will not mean that this system's functioning can fully meet expectations. It is the duty of economists not to stir up exaggerated hopes, to show that the functioning of the economic system is closely tied in to its social infrastructure (the social and moral structures). There is an ever more universal conviction that without simultaneously improving this infrastructure, we cannot make the economic system operate effectively.

What are the preconditions for us to imagine that the proposed division of the scope of decisions between the central office and the units being directed and the related institutional-organizational changes will permit the relatively efficient functioning of the economic and financial system? The answer to this question is to be found above all in a comparative analysis. The highly centralized system is no longer adequate for the current stage of the economy's development, but experience of the years past shows that the central office's failure to master the parameters led to the point where this was a system without parameters, one which as a result could not operate efficiently. Hence, we should imagine that giving enterprises nearly complete independence in the realm of modernization and restitution investments and production, and eliminating their influence on the parameters, may be the main element in the efficient functioning of the self-financing system. Of course, the structuring of an effective incentive system is a condition to this. In relation to this system it is essential to eliminate elements of bargaining in setting the standards. This too is a conclusion coming from past experience. We could make identical remarks on the other components of the economic system, comments which show overall that this could be a cohesive system of parametric administration in those areas where this is possible.

Here the main issue, given the sphere established for the division of control between the central office and the units being controlled, consists of correct applications, because to give the central office control in the realm of prices or subbranch investments does not mean that the central office would directly set all prices or would directly decide on all the subbranch investments (because this is impossible). It is a question of shaping the system creating the prices using a parameter and hence an instrument over which the economic units have no influence. It is also a question of shaping the system to insure that the central office has control over the directions of investment, with adherence to the criterion of investment effectiveness. I have tried to point out the directions of solutions in these and other areas, but they are only directions. The staff work of experts is required to turn them into concrete form.

Usually too much time is given to discussions on the concepts for modifying the self-financing system, but on the other hand too little time by far is left for the thorough preparation of the applications.

FOOTNOTES

This is a discussion article. The editors do not share the author's views on the issue of the structure of the central authorities.

1. The postulate presented in the previous article on increasing the central office's control in the area of prices is already undisputed today. In the Resolution of the Eighth Party Congress we read that it is absolutely essential to strengthen the central control of the price system.

2. Viz: Z. Pirozynski. "Directions for Improving the Budget System (Outline of Reform)," STUDIA FINANSOWE, No 14, 1973, pp 20-21.

3. Viz: M. Mieszczankowski. "Technical Progress Under Socialism," ZYCIE GOSPODARCZE, No 41, 1972.

4. Postulates voiced on this matter have also been expressed in the materials of the Eighth Party Congress.

5. Recent moves in this area show changes for the better.

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NEED FOR FIRMNESS IN APPLYING NEW ECONOMIC-FINANCIAL MECHANISM

Bucharest ERA SOCIALISTA in Romanian No 11, 5 Jun 80 pp 9-12

/Article by Dr Alecsandru Babe, section head at the Higher Court of Financial Control: "Firm Application of New Economic-Financial Mechanism"/

/Text/ Improvement of the economic-financial mechanism,an effort of profound significance for Romania's entire socioeconomic existence, has created better conditions for the planned management of the development of Romanian society, for improved organization and performance of activity in the economic units, and finally for obtaining ever better results.

Self-administration is one of the basic elements of the improved mechanism, and it concerns the conditions and relations of the economic-financial activities performed in the units that produce material goods and consequently create the national income. As a higher form of economic administration, self-administration is intimately related to workers self-management. By virtue of the means and instruments that compose it, it is intended to enable the economic units to achieve a new quality in their own activity to meet the requirements of the stage through which Romania is now passing.

It may be said that the essence of this new quality lies in a substantial gain in economic effectiveness, upon which creation of the resources for Romania's socioeconomic progress and for improvement of the people's living standard ultimately depends. In pointing out once again the close tie between economic development and the workers' material advantages, Nicolae Ceausescu said at the Working Conference of the RCP Central Committee of 29-30 May 1980, "The new mechanism calls for workers self-management and self-administration, and first of all it calls for implementation of production, growth of the net output, profitability and profits, and procurement, on that basis, of additional funds for sharing profits."

Priority on Physical and Net Output

Economic-financial self-administration depends on the existence and consolidation of the Uniform National Plan, the instrument that permits coordination of all material and financial resources of society and their management in accordance with the basic aims of expedited development of the productive forces and the rise of the workers' living standard. In this sense, with the introduction of self-administration economic units' plans remain as before components of the Uniform National Plan, which coordinates and harmoniously combines them. As new elements, economic-financial self-administration means (a) a stronger position for the enterprises and centrals in preparing the plan proposals and in substantiating the approved tasks, and (b) coordination of the enterprises' plans with those of the higher organizations by means of a system of indicators better reflecting the social needs (primarily by setting the physical tasks of the plan) and committing and stimulating the units to more rapid growth of the newly created value (especially through the introduction of the net output as a basic index). This strengthens the very realism of the plan.

Moreover the experience acquired in compiling the draft plans for 1979 and 1980 and in preparing the proposals for the 1981-1985 Five-Year Plan demonstrates the economic units' much greater capacity for and interest in discovering the potentials for growth of physical production and of the value of the net output and improving the qualitative indicators of the activity. These favorable trends are to be encouraged and developed henceforth by more intensive use of the possibilities of workers self-management and of economic-financial self-administration. This means knowledge and more prompt and effective use of the workers' suggestions and innovating ideas, greater efforts by the enterprises to prospect the domestic and foreign market demands and to cover the plan tasks with adequate contracts, timely measures to modernize production and to assimilate new products, etc.

As economic-financial self-administration is promoted, the producer enterprises' close contact with the "market" is one of the main ways in which the plan meets the social need and the requirements of the various categories of consumers. It is important for this contact not to be merely informative but understood as a continuing effort on the part of the economic units to adjust production to the beneficiaries' needs and demands. And this means that economic-financial self-administration can find a major social purpose if the enterprises employ every means at their disposal to achieve greater flexibility in meeting the domestic and foreign market demands. And this flexibility can be acquired, among other ways, by a greater effort toward creativity and technological innovation on the part of every enterprise.

As we know, with the promotion of the present economic-financial mechanism the improved system of indicators has set new standards whereby the economic units are regulating their activity. As was to be expected, the net output had the most pronounced effect because of the functional relationship created between it and the size of the permissible wage fund. The figures for 1979 and the first months of 1980 confirm the fact that most enterprises readjusted their activity to this plan "regulator," finding and applying measures for faster growth of the newly created value and for fulfillment and overfulfillment of the net output plan.

Nevertheless some enterprises and centrals have shown considerable nonfulfillments of this indicator, making it necessary to resort to special "derogatory" approvals to release the wage fund. But fulfillment of the planned tasks for net output requires a number of technical-organizational efforts, among which those to reduce the material outlays are vital. The objectives and the economic means used for this purpose must also be determined in advance.

Of course the system of plan indicators can also be supplemented and improved to best serve the ends of the party's economic policy. It should be mentioned here that some tasks expressed quantitatively (in tons for example) are not always in keeping with the major interests of the economy in reducing material consumption (especially of metal). Therefore the physical indicators should also include, in some way, the functional parameters of the products in order to encourage the effort to reduce the material inputs. There are also cases where expansion of cooperation among enterprises, although it is characteristic of a modern industry and generally useful to it, conflicts with the interests of the beneficiary enterprises because the subassemblies (or component parts) obtained through cooperation may have prices higher than the costs at which they were previously produced and may accordingly reduce the value of the net output.

Obtaining Higher Effectiveness

One of the most important features of the economic-financial mechanism is the fact that it places on an entirely economic basis the relationships between the state funds and in general between the state, as a representative of all society's interests, and the economic units, which are administrating and exploiting part of the national productive property. By their very reason for being, the economic units are meant to meet certain social needs with the greatest possible effectiveness. Therefore the enterprises and centrals must produce high-quality products, making the best use of the resources available to them and contributing according to their potential to the rapid growth of the national income.

Economic-financial self-administration can no longer be confined today to mere coverage of outlays out of the economic units' own incomes or to obtaining a minimal profitability. The enterprises that achieve complete self-administration are distinguished by their ability to make the most effective use of their potential, to meet their obligations to the state punctually and in the quotas set, and to create their own resources for development, for their own personnel's incentives, and for satisfaction of social needs. In this case profitability is to be interpreted in a broader sense, including the entire net income planned and realized in the economic units in close interdependence with the need of funds to meet all of the economic units' internal and external obligations.

Economic-financial self-administration creates a wider and more intensive field for the action of the economic-financial levers (prices, profits, credits etc.) which encourage the enterprises' efforts to make better use of financial, material and human resources or, conversely, check the trends contrary to society's general interests. Relations of the "budgetary" type, when enterprises demanded as much resources from society as possible with no corresponding obligations, must be considered a thing of the past. In connection with this, even concepts like "unrepayable budgetary financing," "supplying enterprises with fixed capital" and "supplying with circulating assets" henceforth belong to the history of finances and conflict with the current standards. Once self-administration has been promoted, financial relations between the state and the economic units can be only in the nature of an advance of resources for purposes of their reproduction and on condition of their restitution within given time limits.

Some violations of the standards of economic-financial self-administration can also occur in economic practice, but they are exceptional and do not contradict its nature. It is important to distinguish violations accepted through economic policy from those resulting from the producer units' activity properly speaking. In the first case the state, in consideration of certain circumstances (especially in connection with the necessity of procuring and developing the resources for raw material supply), can grant some economic units temporary subsidies out of the budget or allow them to operate at a low profit. In the second case some economic units, for reasons partly or entirely of their own, reach a point where they cannot meet all their obligations to society, fail to make their planned profits or, what is even more serious, conclude their activity with losses. In 1979, for example, some enterprises in the chemical and machine building industries and other sectors did not make their planned profits because they did not fulfill their physical plan tasks and exceeded their production costs, and they did not repay the planned funds out of those advanced to them by society and did not make the prescribed payments into the state budget by way of the levy of part of the value of the net output and the tax on circulation of goods. There are also units in agriculture, construction etc. that showed losses instead of profits or incurred losses greater than the approved subsidies.

Society cannot tolerate such phenomena, which represent an undesirable consumption of its general resources. It is the duty of the respective enterprises to contribute to the growth and not the reduction of those resources. Intensive and immediate measures are necessary to correct the state of such units. Society's interest in the efforts that must be made for this purpose is graphically illustrated by the legal provision to introduce special supervision in enterprises that show losses and to establish the guilt of those responsible for the unsatisfactory results of the respective unit.

Self-Financing and Formation of Internal Funds

Self-financing is another main feature of economic-financial self-administration that results from placing the relationships between enterprise funds and the general state funds on an economic basis. In this way the economic units enhance their economic-financial power because they have to procure the necessary resources for their own development and to meet some social needs through the activity performed. Moreover self-financing is an important incentive for the enterprises to obtain better economic-financial results.

The funds for development of the producer units are the most important element of self-financing. The amount of the internal resources the economic units hold at a given time or could accumulate in accordance with the planned tasks in the way of profits and amortization over a given period of time (in a year for example) does not predetermine the extent of their development (If it did, the expansion of some economic units and subsectors would inevitably be held up). Therefore in planning practice the direct forms of self-financing (out of the enterprises' internal resources) are combined with indirect forms of it through investment credits, which are granted to supplement internal resources as far as necessary to finance the planned investments, and also with indirect forms of it through the centrals' funds for financing major operations (and for creating new units), with the obligation to repay the respective funds in installments after the investment capacities are activated. Particular forms of self-financing are also used to cover the growth of circulating assets resulting from expansion of production and of the volume of sales of goods. And finally, the economic units also procure their resources for housing construction, other social investments, and some social programs through the self-financing system. In addition to their incentive effect, these funds also enable to the enterprises to perform an important social function.

The economic units' efforts to fulfill their self-financing tasks are becoming critical to plan implementation. They must procure the resources for their own funds in the planned amount, they must repay the centrals their share of the sums received for financing investments, and they must repay the installments punctually that are due on supplementary credits obtained from banks. Failure of any enterprises to procure their own resources has serious consequences which often cannot be confined to the units in question but have a chain effect upon the activity of other enterprises. In 1979 for example some enterprises making chemical, petroleum and mining equipment could not collect on time for the products delivered to and accepted by beneficiaries because the paying enterprises had not procured their own funds. Hence also a number of overdue credits bearing penalizing interest rates.

Material incentive is an important feature of economic-financial self-administration, and it consists of workers profit-sharing, which is an especially important aspect of the new economic-financial mechanism. We mention only that the bulk of the profits used for this purpose is a variable quantity, also depending on the results obtained by each enterprise in fulfillment of its planned tasks. In other words, a more profitable activity offers greater incentives, being equally valid and reciprocal.

Securing the Material and Financial Balance

In a systemic sense, an enterprise is a subsystem of the whole system of the socialist economy. The subsystem, namely the enterprise, can coexist only in interaction with the other subsystems. The fact that every economic unit will make a sustained effort toward normal material and value relations with the other subsystems, to ultimately secure its own material and financial balance, is characteristic of the conditions for implementation of economic-financial self-administration. Moreover, by their efforts to consolidate their own material and financial balance, the enterprises also help to strengthen this balance on the scale of the entire economy.

As we know the flows of raw material and material supply are based on the allotments of materials and the economic contracts. But the material base of the plan also depends to a great extent upon every enterprise's effort to conserve material and energy resources and to recover wastes and secondary resources from the production process. Some enterprises, in the machine building industry especially, have not taken very firm action in this direction, maintaining consumption norms unchanged for long periods of time (sometimes 4-5 years) or even raising them. Often the consumption norms (those for metal for example) were calculated liberally but were not observed. And now that there is a world crisis in energy and raw materials (worse than ever before), such situations must be eliminated entirely.

Unquestionably a number of enterprises have obtained good results in lowering consumption norms and have perfected new technologies leading to reduced consumption. Such results help to strengthen economic-financial self-administration when they become general by including all resources in the effort. Moreover the new technologies must be applied immediately to the production process and extended to all fields where they are applicable. The material balance cannot be strengthened by individual results alone, however important they may be.

In view of the importance of these points we must discuss what we would call the administration of the material and energy resources, from reception of the materials to delivery of the finished products, with all the problems presented by rational management, economical use and better exploitation of the material resources. Of course the administration of fixed assets with all that is characteristic of their proper use and maintenance can also be discussed in the same way. To be sure a proper administration of material resources can be achieved by applying criteria for rationalizing the production flows, supply and sales, and the level of the stockpiles, and finally by accelerating the rotation of circulating assets as one of the main indicators of the effectiveness with which an enterprise operates.

Securing the financial balance of all activities performed by an enterprise is particularly important. This balance is reflected in every enterprise's budget of incomes and outlays, which includes all incomes, outlays and financial results to be obtained in a given period, as well as the internal funds to be formed and used. While the economic units have provided for all needed resources by these budgets, in their execution they must constantly maintain their ability to pay, that is they must have collections sufficient to meet their financial obligations on time. This requires regular production and sales activity, observance of the standards of quality and the contractual clauses concluded with beneficiaries, and in general a properly organized and controlled economic-financial activity. Experience shows that enterprises that have acted in this way have succeeded in meeting all payments and obligations on time, while the units that have not maintained their ability to pay have encountered serious difficulties and have extended the chain of nonpayments in the economy. Some economic personnel regard loss of ability to pay as a mere financial phenomenon to be resolved by finance and accounting departments in units and by banks. Actually loss of ability to pay conflicts with the standards of economic-financial self-administration and indicates serious defects in the management and organization of an enterprise's whole activity. Perpetuation of this phenomenon shows that part of Romania's material resources is immobilized in various stages of the economic process instead of being used to meet a number of social needs. Therefore maintenance of ability to pay (or its rapid restoration in case of temporary irregularities) should be considered a main objective of great importance both to every economic unit and to the whole national economy.

Enterprises' Operational Autonomy and Internal Administration

Economic-financial self-administration has lent the problem of autonomy of the economic unit and its powers of decision a much more profound significance than before it was introduced. This autonomy is characterized by the fact that it is primarily related to fulfillment of the qualitative planned tasks and to the material and human factors of the production process that contribute to plan implementation. The enterprises' and centrals' power of decision, derived from their operational autonomy, should be manifested in adoption of the most suitable measures for proper management of the material and monetary resources, for scientific organization of production and labor, and for modernization of production. In these areas the economic units' autonomy has a broad field of manifestation, and the decisions can be focused upon the basic problems of greater effectiveness. We must not forget that an enterprise grows stronger the more it uses its capacity for decision for better organization of economic activities, faster promotion of technical progress, institution of a strict regime of economy in all sections, and establishment of complete production order and strict labor discipline.

There is no question that once economic-financial self-administration was introduced, it heightened the economic units' responsibility for fulfillment of their planned tasks and their obligations to the state, the ba , and other socialist units. Some of these responsibilities directly concern the activity of the managers and the workers councils. According to the laws in force, when the director of a socialist unit is appointed to his post he takes over the administration of the property and is responsible for the careful and efficient management of all material and financial resources. He is jointly responsible with the head of the finance and accounting department for observance of plan, contractual and financial discipline and for taking steps to preserve the integrity of the property entrusted to his administration, and it is his duty to reject any property operation in violation of the legal provisions.

But if economic-financial self-administration is to produce all the expected results, some internal organization of the enterprises must be instituted that will permit precise determination of the planned tasks and responsibilities for each subunit, section and shop, down to the work places. In this respect it is primarily important to promote particular instruments of internal administration and to adopt an integrated information system to supply the decision-makers with timely information on progress in plan fulfillment. At present there are lags in a number of enterprises in readjustment of the internal management instruments to the requirements of economic-financial self-administration, with a tendency to maintain the already existing ones and to conserve certain outmoded forms, methods and practices. And it should be mentioned that the decisive transition to the introduction of the new instruments is strictly within the competence of the economic units and economic sectors and subsectors, in other words no more approval or guidance "from outside" is to be expected.

To this end it is particularly important to introduce standardized costs, a system whereby a product, subassembly or part must have its cost proportioned once it is designed, with the obligation to observe this cost in its manufacture and to try to reduce it. A well-kept record can show deviations from the standardized costs, and the decision-makers will take prompt steps to eliminate the undesired ones. Budgets of outlays for subunits and sections are also useful as ceilings they can reach, so that each enterprise's tasks will be observed throughout.

In conclusion it should be said that economic-financial self-administration is directly related to organization of internal control on all organizational levels, from the work places and storehouses to the general level of the enterprise. Internal control must be intensively preventive, because it is far better for an enterprise and for society to prevent an uneconomic outlay than to detect it later. The fact that internal control has not invariably functioned adequately explains why some enterprises logged a high number of fines and penalties last year, as well as other needless expenses. The measure taken to directly reduce the profits remaining available to enterprises in proportion to the deficit from fines and penalties paid and collected (without entering them in the costs) is not a mere technicality as some would believe. It has afforded the management collectives a means of checking these outlays and starting to recover those involving personal liability.

The new economic-financial mechanism has given the economic units perfected means of using their entire productive potential to carry out the Uniform National Plan. As it was emphatically pointed out at the recent Working Conference of the RCP Central Committee, the results depend upon the success of the enterprises and centrals in committing their own forces to better use of material resources, greater economic-financial effectiveness of all activity, and exemplary fulfillment of the other objectives approved in the plan for this year and also in the Directives of the 12th Party Congress on the Plan for 1981-1985.

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AREAS FOR STRENTHENING BANKING CONTROLS EXAMINED

Bucharest REVISTA ECONOMICA in Romanian No 24, 13 Jun 80 pp 9-10, 27

[Article by Constantin Grigorescu of the Bank for Agriculture and the Food Industry: "Increasing the Efficiency of Banking Control"]

[Text] As a basic component in the management of society, control is designed to ensure a dialectic tie between the act of decision making and the carrying out of the decision, on one hand, and systematic and efficient pursuit of the management of material and monetary resources in the economy, on the other hand. Precisely keeping in mind the important role it exercises, our party and state give special attention to permanently improving control and increasing its efficiency. In his speech presented at the Working Conference of the Romanian Communist Party's Central Committee of 29-30 May 1980, comrade Nicolae Ceausescu severely criticized the existing shortcomings in the exercise of control, especially with regards to the organization and efficiency with which problems are resolved.

The Rational Management of Funds, A Central Objective of Banking Control

From this thorough analysis, there is a clear need to intensify control in all the fields of activity in our country and to raise it to a higher level by eliminating all the shortcomings that currently reduce its efficiency.

With regards to banking control, we feel it is first of all necessary to accentuate its preventive aspect, recognizing the fact that stopping certain operations and payments that are not necessary, opportune or which violate the law before they are carried out confers efficiency to the control. Preventative control plays an important role in the most appropriate use of material and monetary resources and in protecting the integrity of public property.

If from a methodological point of view banking control was equipped recently with ever more efficient means, in the area of its organization there are still some possibilities for improvement. The current organization of this control, which has been practiced for over three decades and within whose framework the economic units are assigned inspectors on the basis of work norms while each inspector individually checks his assigned units, appears, in our opinion, outdated since this type of organization imposes a certain rigidity upon the banking control apparatus and narrows the opportunities to move about and effectively work in the field.

At the same time, the obligatory fulfillment of all the control objectives that were later put into the banks' methodological norms appears, in some cases, inopportune and inefficient, thus wasting a part of the bank inspectors' time. For example, there is the case of the bureaucratic verification of credit collateral. On the basis of certain analyses carried out in 1979 in the units of the Bank for Agriculture and the Food Industry in several counties (Bihor, Constanta, Ilfov, Hunedoara), the results were that only some of the checked units reported credit deficits and the process of non-guaranteed credits was relatively reduced. This proves that control must be especially carried out in those units where shortcomings persist both in preventative control and in the case of follow-up control on the use of salary funds and on discipline in the bank and in non-cash payments. From an analysis at the Ilfov branch of the Bank for Agriculture and the Food Industry, it shows that the state agricultural enterprises with accounts at this bank in 1979 had the following situation with regards to these three forms of control mentioned above:

Type of Control	Percent of the Total	
	Units With Deficiencies	Units Without Deficiencies
Control of the Use of the Salary Funds	35	65
Control on Banking Operations Discipline	60	40
Control of Payments Discipline	65	35

These aspects can also be found at other banking units and appear under conditions where the inspectors have to use the largest portion of their time for subsequent controls. For example, an analysis of the use of time during September 1979, a month when different studies are usually carried out regarding the apparatus' workload, shows that the 12 inspectors working in the credit and financial office of the state agricultural units within the framework of the Ilfov branch of the Bank for Agriculture and the Food Industry used their time as follows:

Number of Inspectors	Of Which, According to Time Used For Subsequent Controls:			
	Up to 50%	Between 50-60%	Between 60-70%	Over 70%
12	1	6	1	4

The result is that the stress was placed on subsequent controls, with the largest part of their time being used for this purpose. This aspect is not found just in the activities of this office and only at banking units where an analysis was conducted.

Priority for Preventative Control

Exercising a control must be accomplished according to the requirements of a given moment. Currently, this is so because inspectors sometimes, instead if concentrating their efforts on units having difficulties and problems in order to effectively help them eliminate and resolve these problems, collect different data and information from the activities of the economic organizations that have accounts at the bank. In some cases, this information is unimportant and does not help to improve the situation in the field.

Faced with these aspects, we feel that at the beginning of each year banking control should be redirected according to the economic and financial results obtained by the enterprises during the year that has just passed and not solely on criteria based on the work norms of the inspectors. Those units with negative results would be assigned a control by the inspectors, as is currently done, with the check on these units being carried out on all the objectives outlined in the methodological norms. For those units with good results, there would only be a preventative control and a follow-up control only in cases where, on the basis of documents submitted to the bank, accounting reports and the evolution of banking indicators, this appears necessary. In this manner, the subsequent control will be more a continuation of the preventative control. As the number of units having positive results in the preceding year increases, there can be more preventative controls than subsequent ones.

Accentuating a decrease in subsequent controls will make available a number of the inspectors, eliminating some workload phenomena that currently occur, with a negative influence upon the quality of the control, will eliminate some of the automatic aspects in fulfilling the objectives of a subsequent control and will create better conditions for extending and strengthening preventative control, whose efficiency is recognized, as well as for making the in-the-field control more extensive at those units with negative results and wherever it appears necessary.

Under the conditions created, preventative control could also involve even more activities which figure in issuing credit and other operations related to bank transactions in a more organized framework (completing economic contracts, economic plans, income and expenditure budgets, credit plans and so forth). Through this, in addition to discovering certain internal reserves and factors with negative influences in the activities of the economic units, criteria and areas of more appropriate assistance for the entire plan year could be provided to banking control.

Getting contracts for the two functional phases of the economic process, supply and sales, creates the premises for the normal carrying out of all economic and financial activities in the plan year. This is so, knowing the fact that, according to law, economic contracts are instruments for planning and achieving the provisions recorded in the unique national economic-social development plan and that they are concluded prior to the beginning of the plan period, depending upon the specific type of production.

Strengthening banking control with regards to ensuring certain most appropriate contractual relations would prevent many of the shortcomings which still exist regarding the manner in which economic units fulfill their obligations to each other during the plan year and which were exposed at the Working Conference of the Romanian Communist Party's Central Committee in May of this year.

A key moment in preventative banking control is the completion of the production plan and the budget of incomes and expenditures. It is known that the entire bank credit and payment process, the process of depositing state income, the process of making payments for salaries, all operations subject to banking control, stem from plan tasks. In this phase, the banking inspection has the opportunity to see the means of substantiating each source of income and the categories of expenditures and to bring about a financial balance and mobilize all internal resources. Likewise, it can lead to the most appropriate use of one of the basic instruments of the new economic-financial mechanism, the budget of incomes and expenditures.

The importance of the control during the phase of drawing up the plan is shown by the fact that, where this control has been appropriately and thoroughly exercised, the inspectors of the Bank for Agriculture and the Food Industry found numerous cases of exaggerated provisions for expenditures, income levels set lower than existing opportunities, inconsistencies between plan indicators or between the indicators of certain units and important and frequent economic relationships (for example, between the plans of the agricultural production cooperatives and those of the mechanized agricultural stations) and others where corrective measures were taken.

The completion of the quarterly credit plan is carried out on the basis of indicators in the economic plan and the budget of incomes and expenditures and is designed to identify the necessary amount of circulating funds to be borrowed and established at the beginning of the plan year. It is an opportunity to make an analysis regarding the manner of achieving the economic and financial indicators in the expired quarter. This is especially true in agriculture where the influence of certain natural factors can create set backs in projects in the crop cultivation sector and changes in the planned movement of animals. The analysis also permits taking action of credit to eliminate certain shortcomings in the enterprises' activities.

The carrying out of a more effective control at the time of completing the credit plans appears even more necessary since many enterprises, trusts and so forth still do not give it the importance due in the sense that they are not involved to a sufficient degree in establishing the necessary amount of credit. Nor do the technical personnel directly and thoroughly know the means of carrying out the economic process during the course of year, a fact which creates some difficulties in determining the amount of credit, with negative consequences on the carrying out of the credit process and the exercise of control through the credit process.

Subsequent Banking Control Differentiated According to the Results Obtained

The strengthening of banking control over banking operations could be achieved by having the teller window controllers effectively and permanently helped by inspectors made available as a result of reduced subsequent controls. Through this, the subsequent banking control would become more an extension on another level of the preventative financial control in the economic units and would take on new values designed to ensure the supervision of operations at all units and not only uncover shortcomings regarding legalities, but also the economic opportunities and necessity of this control. It would create the opportunities for strengthening the preventative control regarding the financing and repaying of investments which produce numerous operations of great importance at the specialized banks for these units' activities.

The strengthening of control is even more necessary keeping in mind that in comrade Nicolae Ceausescu's speech it was pointed out, in connection with the shortcomings regarding investments that "In this area, the banks and our financial apparatus are also at fault since they did not carry out their tasks in the area of control."

Concomitantly with the strengthening of control, some necessary and more unusual subsequent controls could be carried out by teams of two or three inspectors, which would accentuate the differentiated nature of the subsequent control and place it on a qualitatively higher level, especially with regard to collecting and furthering the analyses of economic phenomena and effectiveness in taking the required measures.

In the scope of accentuating the different nature of the subsequent banking control, I feel that it would be useful to grant the appropriate authority to the directors of banking units to be able to concentrate this control at certain projects and units and to withdraw it from others.

Under the conditions of the different nature of the subsequent banking control, there should also be a review of control subjects since the control apparatus, in addition to pursuing the objectives in the credit norms for production and financing investments, still also currently carries out certain actions that occupies its time. The experience acquired shows that these types of actions that are rather far from the object of banking activities did not have an efficiency that justified the efforts made and should be removed from the sphere of banking control.

For the purpose of ensuring the completion of control under efficient conditions, we feel it is necessary to more careful pursue up and down the heirarchy of the banking apparatus - at the central, branch and office - the means of resolving the problems uncovered in the control process. "The agenda of the problems being resolved" should be recognized and pursued from the inspector to the director of the banking unit, recognizing also the fact that the continuity of banking control gives it greater operating possibilities in this area.

The movement of the center of gravity of banking control towards its preventative side, by differentiating between that side and the subsequent control side, would increase its efficiency, would ensure a more rational use of the banking control apparatus and would respond to a greater degree to the requirements of the Finance Law, which places a special accent on the differentiated treatment of the units in their relations with the banks according to the economic and financial results the units obtain.

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PROBLEM OF PROVIDING, HANDLING ENERGY

Bucharest ERA SOCIALISTA in Romanian No 11, 5 Jun 80 pp 13-17

[Article by Valeriu Ceocegnica: "Considerations of Procurement and Management of Energy Resources"]

[Text] As Nicolae Ceausescu said in his speech at the Working Conference of the RCP Central Committee of 29-30 May, "We must take intensive measures to carry out the decisions of the 12th Party Congress concerning development of energy resources and procurement of the raw material and material base in Romania."

When in October 1970 the OPEC countries raised the price of petroleum by almost 4 times in only 3 months, the capitalist press described this measure as a reprisal against the western oil-importing countries in connection with the conflict in the Near East. From then on the price of petroleum continued to rise with the help of the multinational oil companies, which aggravated the crisis by profiting by the imbalance between supply and demand and definitely contributed to the instability of the hydrocarbons market. The consequences went far beyond the said conflict and involved practically all countries in an acute and dangerous energy crisis.

Developed or underdeveloped countries, producing or importing hydrocarbons and with planned or unplanned economies, had to "take a bearing," as it is called in maritime navigation, to analyze and try to find other solutions, and to appraise or reappraise their future economic development.

And so what was first regarded as a reply to the adversaries in a conflict compelled mankind to remember a fact it had forgotten in the euphoria of successes and satisfactions, namely that the earth's reserves of hydrocarbons are limited, and so limited that they could be completely exhausted in a few decades. In the last 100 years mankind has consumed about 42 billion tons of petroleum and the confirmed reserves are 2 times greater. But it is an essential fact that the present consumption of 3 billion tons a year, increasing at an average rate of 8 percent a year, is making petroleum less and less satisfactory as an energy resource. The energy crisis has demonstrated once again, if there were still any need, that use of petroleum as a main energy source can cause extensive disturbances with serious consequences. The resulting analyses and considerations also confronted the governments with many other problems of economic development, in addition to concern about deterioration of the environment caused by industrialization, the demographic explosion and social dissatisfaction, and the uneven geographic distribution of resources and consumption. The standards for judging the nations' degree of economic development have also been changed in one respect: whereas until recently a high per capita energy consumption was a favorable index of economic development, it is now more indicative of an unhealthy economic situation.

Now more than ever the nations are comparing, considering and investigating their economic problems and even suspecting waste. Some of them have rejected any further nuclear power engineering by referendums. The ecologists have formed movements or even political parties in a number of countries.

The nations' diverging economic interests have brought about some new divisions in the world such as the "Third World" and the North-South dialog, all of which are indicative of the growing tension. For some states having or not having petroleum has become a question of development or even of survival.

Procurement of energy resources and raw materials is a huge package of problems for all countries that dominates the political, economic and technical thought of the world of today. More and more countries have been coming to the conclusion that further socioeconomic development requires energy independence.

Romania's Petroleum Output and Coal as a Basic Energy Resource

In Romania the petroleum industry has been and still is a peak branch of the economy, not only by virtue of its pioneering contribution (in the second half of the last century) to the extraction and use of petroleum but especially because it has been providing Romania with energy resources for over a century. Romania has figured in the international statistics as a petroleum producer since 1857, and its output increased from 275 tons to nearly 50,000 tons in the next 20 years. Petroleum production continued to gain until 1936, when the extraction of 7.5 million tons put Romania in fifth place in the world. In the same period natural gases were contributing over 15 percent of Romania's primary energy output, and the first official reports came out that indicated the approaching exhaustion of Romania's petroleum reserves. According to the technological possibilities of production, drilling and extraction at the time, the reserves were estimated as of 5-10 years' duration.

After nationalization the RCP formulated the petroleum policy and determined the strategy for long-term development of the petroleum and gases sector. In this connection, prospecting and exploration, development of petrochemistry, better exploitation of crude oil, construction of petroleum equipment and transportation of the products were major objectives of the Romanian petroleum policy. Then a definite political policy was established of creating and developing diversified energy resources and increasing production of all primary energy bearers in proportion to the nation's needs and reserves.

Through Nicolae Ceausescu's direct contribution, the documents of the 11th and 12th Party Congresses gave priority to provision for the energy resources of the economy. The directive-program for research and development in the energy field for the 1981-1990 period and the long-range guidelines up to 2000 unquestionably illustrate the party's and state's policy of providing for the energy resources of the constantly developing economy. Based upon production of all primary energy bearers, the program's basic aim is to secure Romania's energy independence by the end of the next decade.

The output of hydrocarbons increased annually with their better exploitation by means of chemical treatment. Natural gas extraction increased from 0.3 billion cubic meters in 1950 to 27 billion cubic meters in 1975, providing 50 percent of the primary energy output. Meanwhile the proportion of natural gases together with that of fuel oil in the fuel supply of thermoelectric power stations declined from 74 percent in 1965 to 57 percent in 1976 and to 40 percent in 1980. To be sure this is progress, but the percentages cannot tell the whole story.

In this five-year plan crude oil extraction has been stabilized at about 14.5 million tons and that of natural gases at 30 billion cubic meters a year, and their contribution to Romania's energy reserve is still decisive. Meanwhile there are indications that the attitude of many is still characterized by inertia in finding ways of replacing hydrocarbons with other energy bearers. For some new industrial capacities, the designers are still recommending procurement of energy by burning hydrocarbons in certain cases. Romanian designers and technicians still entertain a subconscious and preconceived picture of a Romania rich in petroleum. There are still citizens, especially among the oldest, who express their astonishment when they find that Romania is importing petroleum. But, they say to themselves, the oil well on the Romanian flag symbolizes this wealth!

Before the outbreak of the world energy crisis the party leadership advanced a long-range energy policy out of concern for Romania's future, intended to increase production of the various primary energy bearers and to conserve energy and fuels. Consumption of hydrocarbons to produce electric power will amount to 20 percent by 1985 and will decline to 4-5 percent in the 1990's. Under these circumstances the Romanian economy will greatly increase its coal production, which has been partly uncompetitive in the last few decades because hydrocarbons were still cheap.

The world's coal reserves are sufficiently great so as not to cause concern for a longer period of time. But mankind is going back to coal today with other extraction methods and a high standard of labor safety and hygiene.

A brief examination of the statistics shows that the coal mines in the Carpathian-Balkan area are relatively poor and have a lower caloric capacity than those in other areas. Lignite rather than soft coal predominates in

Romania and the adjacent countries (Bulgaria, Yugoslavia and Hungary), retarding the development of ferrous metallurgy in those countries for a long time. Moreover the use of coal to produce electric power and for other industrial and household purposes was almost negligle in Romania between the two wars. Hydrocarbons were invariably used.

The above-mentioned programs call for a rapid increase in coal production as a basic component in the supply of the economy with electric and thermal power. The coal output is to be up 50-60 percent by 1985, providing for more than 50 percent of the production of electric power with 85-88 million tons. The deposits have been identified and explored, and a great technological and production effort is now under way to provide the system of highly productive machines.

Because of the need to use all energy bearers, exploitation of combustible shales, recorded and calaculated among the energy resources, has been started according to a program coordinated by the National Council for Science and Technology [CNST]. The first hydroelectric power station for this kind of fuel is to be activated in the next five-year plan. Methods are being investigated for recovery of energy from sands with a low hydrocarbon content, resources that have long been known but just now reappraised as an energy potential because of the high cost of hydrocarbons.

Nuclear-Electric Power

Nuclear fission was discovered over 40 years ago and it is well known to the specialists and practiced on an industrial scale today, but it is still an alarming mystery to the unitiated. The tragic circumstances under which it came to public attention has greatly hindered its peaceful applications.

In 1905 Albert Einstein advanced, in a paper only a few pages long, the theory that "The mass of a body is a measure of its energy content." The theory is summed up in a simple equation ($E=m.c^2$) that is well known to specialists and not to them alone, but it is difficult to check experimentally as some theories that have become laws of classical mechanics are checked in schools. The said equation indicates that the energy comprised in a body is equal to its mass multiplied by the square of the speed of light. It is written in a coherent system of units of measure, and it clearly demonstrates that minute changes in mass cause changes in energy that can be vast.

Nearly 30 years later Einstein's theory was experimentally confirmed and unleashed a veritable chain reaction in the world of physics. To the experts' astonishment, the experiments showed that bombardment of uranium atoms with heavy particles does not result in formation of heavier particles but splits the atom into lighter particles, with the changes in energy predicted by Einstein's theories accompanied by change in mass. Nuclear fission of 1 gram of uranium converts only one thousandth of a gram of mass into energy, releasing 24 megawatt hours of caloric energy, which is enormous in comparison with the energy produced by traditional burning, that is by way of chemical reactions.

A great drama unfolded for the scientists as they realized the disastrous consequences the use of nuclear energy could have in the war that had begun. What followed is well known, but public opinion is still haunted by the dread that such events could happen again and that a general catastrophe could be brought upon mankind if only by inadvertence. Some western magazines and newspapers excite their readers with descriptions of supposed nuclear attacks and evaluations of the consequences, while others suggest how an atomic weapon could be handcrafted. Construction of family antiatomic shelters has become a profitable public business.

Statements to the effect that in case of accident a nuclear-electric power station would wreak as much havoc as an atomic bomb have been made and are still sometimes made. Such statements perturb public opinion and rightly so. And the fear that multiplication of nuclear-electric power stations would raise the radiation dose above the permissible level, with harmful effects upon man and other beings, is equally disquieting. But the fact is that the critical mass essential to a nuclear explosion is never possible in a reactor with controlled fission. The fissionable material in a reactor of modern design is placed so that even in the absence of safety systems it cannot cause anything but an excessive generation of heat, and no rapid nuclear chain reaction. As for the danger of radiation, the International Atomic Energy Agency recently stated in a press communique (for the very purpose of dispelling the suspicions aroused especially since the breakdown of the nuclear-electric power station on Three Mile Island) that the radiation generated this way is nearly 100 times weaker than that ordinarily occurring in nature (cosmic rays, mineral rocks etc.) with no danger to man.

As regards the natural resources of "fuel" needed for nuclear-electric power stations, the experts assure us that there are enough reserves for a rather long period and that substitutes exist. More effective combustion is expected of reproductive reactors, and production of energy by controlled fusion is being investigated.

Romanian physicists have acquired a wealth of theoretical knowledge in the nuclear field, and they have made progress in the manufacture of nuclear fuel and the moderating agent as well. They also have production experience for building high-capacity thermal power units and electrical equipment.

The Romanian nuclear-electric program takes account of world experience with the various kinds of reactors and equipment in operation as well as Romania's own experience and contribution. The CANDU type of reactor, using natural uranium as fuel and heavy water as a moderating agent, was preferred. The choice of this type of reactor is based on the party and state policy of eliminating from the start Romania's dependence on imported energy resources.

Because of the long cycle of manufacture, installation and attainment of the parameters, the contribution of nuclear-electric power will take effect at the beginning of the 1986-1990 Five-Year Plan. In 1990 it will represent, in the energy supply of the economy, 17-18 percent of the planned output of electric power (about 100 billion kilowatt hours) and will accordingly constitute a basic resource alongside coal and hydroelectric power.

Some problems of implementing nuclear power engineering in Romania are worthy of mention because they require very difficult technical-economic solutions.

The higher the capacities of the producer units, the lower the cost of nuclear-electric power. Units considered sufficiently productive today range from 600 megawatts on up. Under these circumstances the cost of an electric kilowatt is less than that of one obtained by burning coal in traditional thermoelectric power stations. Ten years ago the cost was even lower, but the supplementary safety measures required for nuclear power engineering increased it. On the other hand, the investment per installed megawatt is 3 times greater than that for traditional thermoelectric power stations. In the FRG for example the investment is estimated at 1 million DM per installed megawatt. The cost of nuclear fuel, however, is only 23 percent of that of the electric kilowatt produced, while the cost of the traditional fuel comes to 70 percent.

The long cycle of manufacture, construction, installation, technological tests and attainment of the parameters is added to the initial heavy investment. At present 3 years are specified for the nuclear-electric power stations under construction to attain the parameters alone. The long periodic interruption required for preventive measures, inspections and reconditioning are one of the reasons for this delay, and it is estimated that an average of 30 percent of the time has to be spent on these operations.

Moreover the process technology is much more complex than in the traditional power stations, since it requires very advanced automation and the aid of high-capacity electronic computers. Close attention is given to the heat exchangers, which must insulate the radioactive substances in the primary circuit of the reactor entirely from the steam in the secondary circuit that circulates in the turbine and condenser. Since the parameters of the steam (temperature and pressure) are low, the quantities of steam needed for 700 megawatt units are very great, as well as the size and weight of the turbines. For example, the turbine set is about 60 meters long and the section for conducting the discharge of steam to the condenser is over 70 square meters. The equipment of a unit, in the machine room alone, weighs about 7,000 tons. Complicated problems arise in connection with casting and forging the rotor axis of the turbine.

We mentioned these few figures to convey an idea of the difficulty of the technological solutions required for processing, transporting and installing the component parts in the nuclear-electric power stations. Equally difficult problems arise in connection with the supply of water to cool the condenser. High-capacity power stations are usually installed near inland rivers or streams with high discharges of water. But the ecologists also protest against thermal pollution of flowing waters , which affects the aquatic flora and fauna. If there are no water resources, the high-capacity cooling towers may reach heights of 150-170 meters.

Promotion of nuclear power engineering in Romania is an urgent necessity. It will entail a major technological leap requiring a standard of quality in the manufacture and installation of the assemblies that is hitherto unprecedented in any sector of industry. Our economy as well as our scientific research and technology are prepared for this test.

New Energy Sources and Technologies

The directive-program on energy calls for the contribution of new energy sources to the energy supply of the economy, beginning in 1980, so that they will meet 10 percent of the consumption requirements by 1990. For several years the technical journals and the press have reported the efforts made throughout the world to collect and use resources with low energy potentials dispersed over large areas or resources revealed, at a low level, by the biological processes of living matter. In this connection efforts are being made to find some substitutes for motor fuels.

In the current five-year plan, the CNST has prepared a number of research programs in these fields and financed some research projects, and the researchers collectives have produced results revealing new energy resources. In the light of the Directives of the 12th Party Congress, the organizational framework for this field of technology has been provided for, the research programs have been finalized, the prepared technologies have been generalized, and the objectives of introducing technical progress for assimilation of the equipment and installations in industry have been formulated, so that the new sources and technologies can contribute 5 percent to the satisfaction of Romania's energy needs in 1985.

Solar energy offers the most numerous and most varied possibilities of exploitation. It is permanent and inexhaustible, and it only awaits the technologies and investments to harness and use it. The lives of people and all plants and animals depend upon solar energy.

The caloric component of solar energy is the one most available to man for exploitation. Technologies exist for harnessing it with minimal investments, and they must be publicized, assimilated and expanded. Although solar energy is reliable only seasonally because of the difficulties of storing it, its contribution to heating water should be used.

But before proceeding to improved installations, we cannot overlook the fact that solar energy has been used for thousands of years in a natural state for drying building materials, vegetables, grains with excess moisture, and wood. It has contributed to extraction of salt from the sea, etc. At the last working conference with specialists in construction and construction materials, Nicolae Ceausescu called their attention to the fact that too much energy is consumed where solar energy in a natural state could serve such purposes as drying ceramic materials, concrete prefabricates etc.

Since the possibilities of storing caloric energy are limited, direct conversion of luminous energy to electric power could make a more diversified use of it. By means of photovoltaic cells, the luminous component of solar energy is now being converted to electric power with a productivity of about 14 percent. This method is used only in extreme cases because of the high cost of single-crystal silicon, which cost is not expected to go down because of the nature of the process for purifying this element. But the idea is not to be abandoned. At present the laboratories are looking for ways of producing large and much cheaper amorphous silicon sheets on a plastic backing, which could renew interest in harnessing and converting the luminous component of solar energy.

But the property of plants of producing energy under the action of light and by means of solar heat is still the most efficient way of exploiting solar energy. A simple experiment proves that 1 kg of wheat accumulates more energy through the biological mechanisms than it takes to grow it. Plants are "energy factories." Of course there is no question of using grain crops as a source of primary energy, but the fact is significant that 100 million tons of dry biomass are accumulated in Romania in a year. On the world level selection and intensive cultivation of energy plants, namely those with a high capacity for forming the biomass, are considered the most efficient source of primary energy. Among the unconventional sources of energy applied to the energy supply, photosynthesis is the only regenerative one.

The motor fuels, liquid hydrocarbons at present, are a distinct category in the fuels structure. Their dependence upon petroleum products raises the question of replacing them without replacing the present heat engines, which have been steadily perfected for a century. This has made it urge to use methanol and ethanol as partial or even total substitutes for gasoline, provided that those substitutes are produced from sources other than hydrocarbons and by processes with low energy inputs. This consideration is important because the production cost of methanol made of hydrocarbons is comparable to that of gasoline.

Methods are being developed throughout the world for producing alcohols from vegetal resources, preferably procured from agriculture and industrial processing of wood. In a program prepared by the CNST for testing new motor fuels, the use of methanol made of wastes from the wood industry was tested. In its present state of impurity, with a water content and pronounced traces of acids, the tested methanol cannot yet be used as a motor fuel, and its manufacturing process will have to be improved.

Some specialists think hydrogen could become a permanent fuel because it is present in water, which is abundant in nature. In a gaseous state it can be easily produced by electrolysis of water, but the energy input required for the latter is greater than the energy content of hydrogen. Efforts are now being made to find ways of producing hydrogen biologically, but the investigations are still in the beginning stage.

Pursuant to the Directives of the 12th Party Congress, the CNST is updating all programs for exploiting energy resources and finding new energy sources (thermal waters, wind and wave power, household wastes etc.). Although their contribution to the supply of the economy with energy resources is still limited, the studies will continue because Romania's future supply of energy resources requires them.

Economic Effectiveness As the Best Source of Energy

At the start of industrialization the world formed the unwarranted impression that the earth's resources are unlimited and are to be exploited according to the law of maximum and most immediate profit, on the colonial policy of unlimited exploitation of all that could be exploited at the lowest costs. No policy considering the future nor any effort toward rational exploitation if only of internal resources existed at the time. Some resources resisted exploitation not because of man's concern for them but for lack of adequate technologies and transport means.

All mankind realizes today that raw material and energy resources cannot increase at the high rates of consumption and the main source and prerequisite of further development lie in considerably greater economic effectiveness in the use of energy resources of every kind, raw materials and materials.

The directive-programs approved by the 12th Party Congress make it a general objective to reduce by at least 40 percent the average index of energy consumption for 1,000 lei of industrial output for the whole decade of 1981-1990. Toward the end of April, when standardization of the materials and elements for constructions and installations as well as the standard designs for constructions were analyzed, all the discussions held and all the directives issued by the party administration consistently conformed to the provisions of the doucuments of the 12th Party Congress on highly effective use of materials and energy in the construction materials sector and in constructions so that standardization in the said sectors will further economic effectiveness. The same objectives were pursued in standardizing iron and steel products and will be pursued in standardizing other groups of products, machines and equipment, for it is only by use of modules and standardization of machines, equipment and installations that efficient specialization of production and differentiation of enterprises can begin.

For a long time research has provided production and consumers with an increasingly wide range of more and more new materials demanded by technical progress. Some of them have been and still are regarded as peak achievements, like plastics for example.

Plastics chemistry has become a symbol of the structural modernity of a developed industry. In judging plastics by the facility with which they replaced a great many products of vegetal and animal origin, the fact has been overlooked that they require a raw material that has become valuable in the meantime and that the methods of producing them require high energy inputs. This is also true of many other products that have become indispensable in certain fields of technology, such as slag cotton for industrial insulation at high temperatures, glass wool, which is even more effective for thermal insulation, etc. Moreover metals or other materials that have become very useful to technology but require much energy to produce, like aluminum, zirconium, titanium and single-crystal silicon, are considered examples of peak technology. Actually we must realize that peak products are manufactured by energy-intensive methods and that specific energy inputs increase with technical progress. But materials with peak performances should be used with discrimination and justification. Waste cannot be condoned in the name of high technical standards, nor can very energy-intensive technologies be allowed to deteriorate to the point of doubling the energy inputs, which can make valuable and useful products uncompetitive.

Until the energy crisis became acute and permanent, some technologies with high energy inputs passed unnoticed because of the internal policy of setting the prices of energy bearers. But under the present circumstances reduction of energy consumption requires a regular effort on the part of everyone to obtain high effectiveness on the level of the economy. This calls for a careful reappraisal of all technologies and products from the standpoint of incorporated energy and energy consumed in use, in order to improve or replace the deteriorated technologies and to generalize the efficient ones. It also calls for substantiated assimilation of new products and technologies in order to keep the biggest energy consumers out of the plan.

Meanwhile more productive conversion of energy is a major source of savings in burning fuels and motor fuels in furnaces, heat engines etc. Many furnaces designed for heat treatments and boilers are still operating at low productivity chiefly because the nozzles and burners of outmoded design are unsuited to the combustion chambers and because the thermal insulation is inadequately proportioned or partly deteriorated. Heating by high-frequency currents can reduce the energy inputs by several times compared with heating the parts in furnaces burning hydrocarbons. The method is known and used and the generators exist, but generalization of this process, which technology makes available to the users, has been held up.

Improved productivity of internal combustion engines is the objective of a general program in full swing. The first aim is to dieselize the motor transport park, while improving the productivity of the existing engines. It is also intended to introduce diesel engines for low-tonnage motor transport means and to stock the parks with machines of appropriate capacity for a more efficient use of the motor fuels. Though it is not spectacular, this improvement in productivity will reduce the consumption of motor fuels by an average of as much as 10 percent.

Quite often the press publishes news of the efforts made by industry and by some inventors and innovators to increase in various ways the productivity of the explosion engines installed in passenger cars. This also includes the efforts made to partially replace gasoline with other motor fuels. The CNST is still financing tests of the most promising and rational proposals of this kind. It is the duty of the State Office for Inventions and Trademarks to encourage, support and promote proposals for inventions that meet the legal conditions. There are still possibilities enough for improving the productivity of explosion engines. All proposals are competently analyzed by the best specialists, the most expert of whom are retained for testing in order to approve them and place them in manufacture. We must not forget that the explosion engine has been steadily developed in the last 100 years and that greater thermal productivity must not interfere with reliability and facility in operation, qualities which are indispensable to the user.

The electric car is being tried throughout the world as a means of conserving motor fuels and eliminating pollution. The problem actually lies in inventing electric batteries that can provide enough independence in travel and light enough not to reduce the transport capacity. So far the electric car is still only a hope.

Recovery of caloric energy from the gases of burning fuels is an important source of savings. Boilers, furnaces and other installations discharge partly unburned gases with a high energy content into the atmosphere. Methods are known for recovering energy from the gases discharged by chimneys, but there are no recuperators because there is no facility for designing them in the specialized industrial engineering institute. Therefore even new furnaces are placed in operation without air heaters /recuperatoare de caldura/. Through the standardization program, preparation of standard designs for air heaters must begin at once, their design must be extended to other industrial engineering units, and industrial enterprises must be organized to make such equipment.

Complete exploitation of the heat contained in water for cooling the condensers in thermoelectric power stations is equally important. The problem will take on a new importance with the appearance of nuclear-electric power stations, where the quantities of energy to be recovered are incomparably greater. Note that the specialists in the United States, in their desire to eliminate caloric pollution of waters, see huge industrial-agrarian complexes composed of gigantic nuclear-electric power stations and vast hothouses for raising vegetables as a solution of the future.

There are great potentials for conserving energy and motor fuels by their rational use. The world energy situation and its implications for the national economy require restructuring our mode of thought, not only as technicians or economists but even as simple citizens. As Nicolae Ceausescu pointed out at the recent Working Conference of the RCP Central Committee, we must realize that continued economic development and maintenance of a decent living standard depend upon a radical approach to the problem of energy consumption, based on the necessity of replacing energy-intensive technologies and stimulating scientific research and technical development in the direction of most effective exploitation of all material and energy resources.

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ROMANIA

METHODS TO INCREASE PRODUCTION IN CATTLE SECTOR STUDIED

Bucharest REVISTA ECONOMICA in Romanian No 24, 13 Jun 80 pp 7-8

[Article by Maria Stroe of the Institute of Agrarian Economy: "Effective Programs Calling For the Systematic Increase of the Number of Cattle and Animal Production"]

[Text] The number of cattle and cattle production today constitutes one of the key problems in developing zootechny in our country.

Within this framework, the raising and care of young steers and heifers under optimum conditions represent the essential premise for increasing and improving the numbers of milk cows especially and the numbers of breeding heifers in general.

The achievement of animal production at the level of the program established by the party and state leadership for 1980 and the next five year plan is directly related to the continuing increase in the numbers of animals and the production potential of these animals.

In his speech presented at the recent Working Conference of the Romanian Communist Party's Central Committee, the secretary general of the party, comrade Nicolae Ceausescu, especially pointed out the importance represented by the intensification of efforts to increase the number of animals and especially cattle in the achievement of goals in zootechny.

Analyzing the measures that must be taken on a priority basis in order to achieve the planned number of cattle, the secretary general once again emphasized the necessity of an immediate transition to special measures to raise and care for the numbers of young steers and heifers under the appropriate conditions, numbers upon which the numerical increase in the number of milk cows and their production efficiency depend.

Animal Reproduction - A Condition for Achieving the Planned Numbers of Animals

The organization of reproduction under the conditions of applying advanced technology and the results of scientific research determine to a great degree the process of improving and increasing the production potential of the animals.

Right from the Working Conference of the Romanian Communist Party's Central Committee on 25 and 26 February 1980, comrade Nicolae Ceausescu pointed out that care of the animals and the milk cows "also means more milk and ensuring reproduction" and he laid out the task of taking "immediate measures to achieve the planned number of births for this year."

The socialist agricultural units have 1,774.9 thousand head of cattle (or 55.7 percent) of the total 3,186.4 thousand head of cows and heifers in our country at the beginning of 1979. This marks the fact that the main efforts must be concentrated in the development of the sector for raising steers. We are talking about achieving the animal reproduction program and adhering to the provisions of Law No 40/1975 regarding the raising and care of animals, the balanced feeding of fodder depending upon the physiological state of the animal and so forth.

At the same time, special attention must be given to carrying out actions for the selection and reproduction, under good conditions, of the numbers of cows and heifers on the farms of the members of the agricultural production cooperatives and by individual breeders. Specialized agricultural organs provide technical assistance and guidance necessary for the application of selection and improvement measures in the farm sector. Through the county reproduction and selection offices a diversified control is carried out over production and certification is made of the quality of the breeding animals available to the people's farms for the purpose of supplying these animals to the socialist agricultural units.

Concerned about the proper status of zootechny, within whose framework the raising of cattle occupies a separate place, both through its significant part in achieving milk and meat production and through the possibilities of using basic fodder natural resources and secondary vegetable production for these animals, comrade Nicolae Ceausescu noted in the working conferences of the Romanian Communist Party's Central Committee in February and May of this year the two means of increasing the number of milk cows:

-- improving the animals' reproduction activities; and

— raising and caring for the breeding stock under optimum conditions.

The organization of certain distinct sectors for raising and caring for young steers and heifers on all cattle farms, responds to certain real demands upon which the proper operation of the steer raising sector depends. The measures for ensuring housing space for the cattle during the raising phase up through breeding require the solution of certain basic problems, such as:

1. The elimination of unfavorable consequences of inappropriately raising the young heifer, which occurs in some agricultural units where this category of animals was not given special attention because they felt that special efforts were not justified for animals that were to be put back into the production cycle. These consequences resulted in the registration of certain increased costs per heifer, only 60 to 65 percent of the number of heifers that reach the age for reproduction actually becoming cows, inappropriate physical development and, as a result, low reproduction indices, reduced milk production and rapid deterioration of the cow after the first calving.

2. A second requirement is in providing heifers to populate new industrial complexes for raising milk cows in "package" groups of animals of the right age and in different breeding stages, at scheduled times. Only in this way can we ensure the stability of increased production and a regular rate of calving. Similiarly, in this large units we must exclusively introduce healthy animals from groups of known production and origins.

3. Within these farms, we must retain the entire female stock capable of breeding, both in the socialist agricultural units and in the people's farms.

4. We must make profitable the raising of young heifers by applying certain superior technological variants together with the judicious use of all economic factors, especially those related to the pricing system.

In the first stage, this action will be achieved by using all available facilities, carrying out the strictly necessary operations at minimum cost, for the purpose of providing the housing space for these cattle.

In the second phase, there will be construction, using local materials (without using cement, concrete, fiber glass or other materials from central supply), of certain new buildings to be used in the appropriate raising and caring for young steers and heifers until covering occurs and until calving.

In this manner, not a single young steer or heifer will be rejected, with the selection process being accomplished only after the first calving.

Table No 1

Results Obtained By Applying Intensive Cattle Raising Technology*

Phases of Production	Average Weight at Beginning of Period	Length of Feeding	Increase Per Day Per Animal	Total Increase at End of Phase	Average Weight at End of Phase
	kg	Days	g	kg	kg
Period I (15-20 days up to 90-95 days)	45-50	70	600	42	87
Period II (3-18 months)	87	450	740	333	420
Period III (18-21 months)	420	90	767	69	489
Total Technological Change	45-50	610	720	439	489

*At the Tortomanu Intercooperatist Economic Association

The fact must be emphasized that the work of concentrating young heifers and having specialized farms for this purpose has been intensified recently, especially as a result of accentuating the process of concentrating milk cows in industrial units. The moulding of trends with regards to raising young heifers is closely related to defining the strategy for raising and using milk cows in industrial units with a "closed" circuit or an "open" circuit, with the young heifers being completely removed from the "open" circuit units.

With the opportunities for the farms specializing in raising young heifers being a problem already mastered, there remains to be established only the organizational form of the specialized farms, which can then integrate cattle from all the sectors (including the people's farms) and adopt the best technology.

Among the units that adopted, a number of years ago, the concept of organizing specialized farms for raising young heifers, the agricultural production cooperatives in a series of counties where experiments were already verified but after some graphic points. This method must be consolidated and pursued not only in the direction of organizing specialized sectors and farms, but also obligatorily along the lines of continuing to improve the technologies used. Each technological variant applied and observation made is of interest since it contributes to the substantiation of the optimum, scientific solution for raising young breeding heifers.

The young breeding heifer farms organized to date can be grouped into three categories according to the type of system practiced:

a) Raising heifers in household type farms, which are operated at minimum cost. In these farms, there has been a total or partial mechanization of feeding, watering and waste removal. These farms were organized in available space in the zootechnic entities where young steers were introduced at the age of 4 to 6 months in numbers of 300 to 1,000 head.

b) Semi-intensive type raising, in modernized farms operating with certain available shelters (farm room left open to the extent of the construction of complexes of the industrial type for milk cows). With a reduced amount of expenditures, these housing spaces were remodeled to allow the application of semi-intensive technologies. Specifically, some agricultural production cooperatives built a new farm (with 300-500 places) for the first phase of cattle raising or one to two farms for the second period (about 800 places). The system used for maintaining the animals is open, in collective pens, with the number of animals reaching up to 1,000 head. In these units, mechanic feeding is provided in both phases, with intensive growth technology being applied in the first period. After pregnancy is diagnosed, the young heifers are moved into household farm-type stalls where full care is provided, with delivery made according to a [illegible] commercial program and with adherence to the conditions of delivery permitting the obtaining of increased prices as outlined by law.

c) Intensive raising in industrial-type farms was also applied. In Constanta County, the Tortoman Intercooperative Economic Association for Raising and Fattening Young Cattle took experimental measures, after the builders turned over the first production facility, to bring in 2,000 head of cattle (17 to 20 days old) with an average weight of 45-50 kg into the farms. These animals came from units with superior milk production (upon acceptance, each animal had a card recorded attesting to its origin). In the intensive type farm created within the framework of the complex that is still being built, the young heifer was raised according to the principles of the "open shed" system during the first and second period. The animals were kept in the second period farms until they were bred.

In order to house the bred heifers, household farm type shelters were further used, with stalls, that were located on the former agricultural production cooperative cow farms situated in the immediate vicinity of the complex. The experiment begun in March 1977 at the Tortomanu complex was based on studies on the adaptability of cattle to an intensive raising system, as carried out by specialists from industrial-type units in the county. The results were that the young heifer responds positively to this raising system, both in weight gain and in frequency of reproduction (see Table No 1).

The Advantages of Specialized Farms

Regardless of the technological variant applied in such specialized farms, the results obtained and the comparison of these results permit conclusive observations on the advantages of this form of organizing the raising of young breeding heifers.

The principal technical and economic indicators achieved in the household farm and the semi-intensive farm, and especially those obtained by applying intensive technologies (by raising cattle 15 to 20 days old in an intensive system), call for the application of certain improved technologies in the raising of young breeding heifers (see Table No 2).

Following the results of the experiments at Tortomanu, beyond the complex itself, in the cow farms, to establish the level of milk production and the behavior of the cows that came from the heifers raised in the intensive system, one offer conclusive observations for the current stage in the process of concentrating and specializing production in the field of raising young breeding heifers. The investments that will be made in this area will be amortized not only on the basis of the positive economic results of the cattle farms, but also from the technical and economic-financial results obtained by the cow farms benefitting from these young heifers.

At [illegible] of the general experience of modernizing certain household farms and applying a semi-intensive technology, this needs a series of [illegible]. The experience of certain agricultural production cooperatives in Constanta county ([illegible] Vali, Cumpana, Fintinele) has shown that [illegible] years of production the expenditures made to [illegible] these farms are fully recovered.

The [illegible] made for each animal delivered as a bred heifer is 39 percent greater in the semi-intensive modernized farms and 59 percent greater in the case of applying intensive technology than in raising cattle in the household farm.

Table No. 7

Principal Technical-Economic Indicators in Farms Specializing in Raising Young Breeding Heifers

Category		Household Farm System	Semi-Intensive System	Intensive System
		1973-1976	1976-1977	1977-1978
Technological Phases	No	2	2	3
Age at Acceptance	Days	130-180	100-150	15-20
Weight at Acceptance	Kg	95-105	80-110	15-30
Length of Feeding	Days	565-575	575-625	640
Average Increase in Weight per Day Per Head	Grams	430-450	500-525	720
Average Weight at Age of 24 Months	Kg	330-350	370-425	489
Coefficient of Rejection	%	12.5-13	10.5-12	5.5
Mortalities plus Sacrificed	%	8	6.5-7	12.5
Pregnant in Third or Fourth Month at 24 Months Old	%	65	75	82.5
Animals Not Pregnant at 24 Months Old	%	16-15	7	2.0
Profit per Animal Delivered	%	100	130	188

The experience of the units that have given special attention to raising young heifers has resulted in several especially important qualitative and quantitative outcomes for the proper operation of the cattle raising sector:

— the noticeable increase in the numbers of head heifers;

— the shortening of the period of time to raise cattle, reaching the optimum weight for reproduction at 16 to 17 months for those cattle raised in industrial-type specialized farms;

— the increase of fertility to 85 to 87 percent level;

— the increase in the possibilities to replace those animals whose age exceeds the optimum production age, for the purpose of obtaining an increased, stable and efficient milk production.

-- the population of new production facilities with "package" groups of pregnant heifers so as to establish right from the beginning a regular and continuing milk production;

-- the creation of certain practical premises for substantiating new investments for specialized young heifer breeding farms, a sector which is becoming ever more distinct within the framework of complex activities in cattle raising;

-- and, in an economic sense, the indicators achieved and correlated with the technical results obtained call for the development and extension of specialized young breeding heifer farms and sectors that will have to become the nurseries for increasing the number of cattle and animal production for this species.

If during the 1951 to 1979 period the number of cows and young heifers increased 1.5 times (from 2.2 million to 3.2 million), in the coming period an increase of over one million cows and young heifers (also a 1.3 times increase) must be achieved in just 6 years, reaching approximately 4.1 million cows and heifers in 1985. Such a condition will have to be achieved only through the firm spread of advanced experiences and through the application of certain modern technologies for increased production and organizational and management measures of maximum efficiency.

[illegible]
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ROMANIA

EFFORTS TO INCREASE TYPIFICATION IN CONSTRUCTION

Bucharest REVISTA ECONOMICA in Romanian No 22, 30 May 80

[Article by Stefan Barthon, Design Institute for Model Constructions: "Planning Considerations"]

[30 May 80, pp 3-6]

[Text] Practice has fully proved that one of the most efficient avenues to completing investment projects rapidly and at significantly lower consumption rates in terms of materials involves maximum typification in construction. During the work conference held at the Central Committee of the Romanian Communist Party in April 1980, party secretary general Nicolae Ceausescu indicated that we ought to immediately switch to typification in construction and construction materials so that we may avoid exaggeratedly sized designs and exaggerated materials consumption rates and significantly reduce the cost of investment projects.

In light of these directives, the bodies involved proceeded to taking specific steps at many levels so that the program for typification in construction may already this year be disseminated on the broadest possible scale. While until 1976-1977 the average rate of utilizing typified designs on a countrywide level in industrial investment projects did not exceed 20-25 percent, beginning in July 1979 the curve of utilization of typified designs suddenly soared to 50-60 percent thanks to the sharp increase in the number of departmental typified designs. For this year it can be expected that as from 1 July this rate will go up to 90-95 percent.

The actual attainment of this utilization rate in typified designs of countrywide importance and departmental importance, regarded as the primary factor capable of resulting in a wiser utilization of the work force and of the means of production and in eliminating waste in the area of completing industrial investment projects, in its turn, involves ensuring specific conditions, which include: typification of techniques, materials, and products for construction, including raw materials and auxiliary materials which underlie construction facilities, determination of the materials which can be used for completing investment projects, for the various types of construction projects and geographical zones, preparation of catalogs of materials and catalogs of typified designs, including catalogs for materials consumption rates.

Coordination Between Departmental Designing and National Designing

Aware as we are that national typified designs contain approaches in terms of structure and installations which are common to several industrial branches and that departmental typified designs completely handle the problems of industrial investment projects that are specific to each individual branch, we shall attempt to survey the way in which these two categories of typified designs interact and the manner in which the various typified structural approaches correspond to potentialities in the production of typified construction materials.

During the years a specific system has taken shape in handling assignments in the area of typification in construction. Practically, the design institutes of departments forward to the Design Institute for Model Constructions [IPCT] or to its coordinating body, the Central Institute for Construction Research, Design and Direction [ICCPDC], demands for typifying specific items, approaches, subassemblies, elements and structural details for construction and installations. Subsequently, IPCT and its coordinating body analyze and serialize these demands and their parameters and, to the extent that they determine their high level of dissemination and repetition, proceed to typify them along the cycle "technical design - experimental design - testing-research (through INCERC [Research Institute for Construction and Construction Economy]) - construction design and details." In the final stage, the national typified designs go to designers of investment projects which incorporate them into the investment programs, namely in the departmental typified designs, with the adjustments corresponding to the geographical locations and specific conditions of the technology involved or without adjustments -- in the case of typified detail designs.

The now traditional cooperation between the developers of typified designs and the designers of investment projects has reached such a high level that experts from about 30 design institutes in Bucharest and their branches in the provinces can forward and can receive technical-economic data, observations and suggestions on a mutual basis, which ensure an adequate and very expeditious handling of the various problems. This cooperative system has yielded good results and must be maintained and furthered. We feel, however, that it is increasingly imperative to implement an organized system of information on a continuous basis which ought to include -- in addition to the developer and designer of investment projects -- all the factors that are involved in investment-construction programs, namely the users, the makers of materials, research, construction, and direction. It would also be useful for the Institute for Construction Direction to structure a data bank for information needed in fields which permit prompt decision-making in construction typification in step with the rate required by Romania's economic growth. Of course, such a system cannot be organized and implemented precipitately, but its handling cannot be long postponed.

Typified Designs and Materials Required

Data on industrial construction facilities completed in previous years show that annually we build about 4-5 million sq m in industrial shops and structures (deployed area) that means an equal area of roofs and floors, shops and structures which are closed in with 2-2.5 million sq m of partly windowed and partly opaque outside walls and in which about 1-1.5 million sq m of side partitioning are planned. In addition, we build hundreds of engineering or technological structures such as: reservoirs, chimneys, stockades, cooling towers, and so forth. Almost all these industrial units (90-95 percent, as shown above) need to be based on national and departmental typified designs, ones that ought to be finalized by the end of this half-year. Hence, what is the stage in developing these typified designs?

From September 1970 up to now there were worked out and approved more than 200 national typified designs, including almost 100 prepared by IPCT, typified designs which involve two categories of industrial construction facilities: items that are common to several branches (tanks, decanters, gate houses, structures for PCI formations, and so on) and modules which can be assembled and are common to several branches (ground floor rooms, storied production buildings, annex and storage structures, interior and exterior walls). Work is now in progress on verifying these designs and supplementing them in light of the directives received. Moreover, work is continuing on preparing the typified detail drawings. During the same period, the design institutes for industrial investment projects developed about 800 typified departmental designs for facilities and items specific to the branches concerned, designs whose handling involves both the approaches in the national typified designs and the approaches specific to the department concerned. Furthermore, ICCPDC and the economic departments have worked out and are finalizing the measures-directives that will underlie the specific activities and the completion of the local investment projects.

For the materialization of these typified designs we must ensure the material base and the work force. While in regard to the work force, by stopping a number of projects and by concentrating almost 1 million people active in construction on primary industrial facilities and housing facilities, favorable conditions are being created for completing investment projects, some matters regarding provision of materials and products for construction are, at least so far, totally or partly unclarified.

For instance, a number of typified designs have not solved the problem of materials or of the typified products used in thermoinsulating the structures in light of the measures to save the fuel consumed in operation. Problems arise in relation to pinpointing materials that may replace polystyrene and mineral wool, whose use is strictly limited. There also is the question of what typified materials will be used to thermoinsulate roofs and exterior walls of industrial shops and buildings. Also, who will be the makers of these materials and what areas will they cover? Which will be the production facilities involved and when is the starting date? What is or will be the cost of these materials? What physical-mechanical parameters, parameters of durability and incorporated energy characterize these materials? How should they be put into operation and under what specific conditions? Are there resources of raw materials and supplies required for the production of these thermoinsulating materials?

It should not be concluded that, while waiting for answers to these questions no action whatsoever was taken. Research and design, and also the construction units -- equally involved in providing adequate answers and solutions to these questions -- advanced many proposals regarding thermoinsulating materials. The Research and Design Institute for the Construction Materials Industry, the Research and Design Institute for the Woodworking Industry, the Bucharest Insulation Trust for Industrial Projects, the Bucharest Trust for Special Projects, and the Research Institute for Typified Projects have made an inventory and have samples including scores of this type of materials, some used in the past and also new materials which can be produced with domestic resources, plus approaches of principle regarding procedure and area of utilization.

However, the fact that there is such an inventory does not mean that the problem has been solved. Steps need to be taken to sort the materials which were inventoried as possible substitutes for energointensive materials (rejects of leather and polyurethane from making of leather items and footwear, wood rejects and low-grade wood, wood shavings, textile wastes, flax and hemp chaff, peat, reed mixed with other delta plants, expanded perlite and ceramics, tree bark, and so forth). Follows the stage in which technological procedures need to be devised for turning out the new materials and, concurrently, developing internal standards which will characterize these products.

Of course, equally important is the stage in which delivery prices will be set. The guidelines specify that they should be very inexpensive, at prices far lower than those for polystyrene and mineral wool, a fact which involves many [illegible] for approaches to ensuring this step.

The new thermoinsulating materials which may be used in typifying industrial construction projects will help to maintain and even upgrade the consumption rates of cement, steel and energy incorporated into the structural elements. [illegible] these materials, in addition to meeting the requirements in terms of price and energy incorporated, also need to meet the following provisions:

a. Their weight must not exceed 30 kg/sq m for roofs and 60 kg/sq m for outside walls, in the context of providing minimal thermal protection to prevent the appearance of the condensate;

b. Their structure and consistency must permit their utilization, as a rule, without requiring protection with various types of plates on both sides;

c. Their degree of industrialization must be sufficiently high so that it [illegible] small amounts of labor on construction sites.

Considering the fact that all kinds of typified designs must soon be finalized (by 30 June this year) and that they must contain the list of materials that are involved in the procedure, plus the physical consumption rates for materials, it follows that up to this point, the designers and departments should have received the list and catalogs with all the typified construction materials that can be utilized. Although these lists and catalogs have not yet been received, many typified designs can be worked out even without these lists, because it is known what can be currently used (structural elements out of reinforced and prestressed concrete, products out of asbestos cement and autoclaved cell concrete, out of glass, out of PAS, from sections with thin walls, some local materials for masonry, ash from thermoelectric power plants, furnace or foundry slag and many more). Also known is what is not allowed to be used at all or is allowed only in a few special cases and in small amounts (polystyrene, mineral wool, asbestopan, metal mixtures and doubled sheet -- generally speaking, energointensive materials or materials which involve dependence on imports).

The concerted efforts of experts in specialized institutes, of makers of materials, and of construction workers will ensure completion of the assignments outlined by the party leadership to the effect that already this year the great majority of the new investment projects be based on typified designs and typified materials.

[Article by Dan Condrea: "Technological Implications"]

[30 May 80, pp 14-15]

[Text] In his dialogue with the computer the designer who has to handle the development of a new product traces on the cathodic screen the outline of a part and puts in codes indicating the quality of the material and some required structural and functional parameters. In response the computer, from its information bank on the existing documentation, provides 2-3 finished charts involving a high degree of similitude with the model indicated and, when the designer opts for one of them, supplies, in a codified system, the data on the serial production considered: the needed amount of materials, the process, and the group of machines appropriate for completion.

What may seem a hypothetical possibility becomes a close prospect thanks to the modern duo group technology-data processing. It is a prospect which we also must prepare in our industry, by already capitalizing, at the level of existing needs and conditions, on at least the most general elements.

About 3 months back (REVISTA ECONOMICA No 11 1980), an article published in this section pointed out the prospect for bringing the production of small series and unique products in the machine building industry closer to the level of efficiency characteristic of large series, by extending the use of group technology. This technology is defined as a modality of optimally using the capacity of conception and realization of parts by wisely utilizing the conditions provided by their similitudes in terms of morphodimensions and range of machining operations. We must recall that the set of corresponding methods involves the grouping into families (according to various structural and technological criteria) of parts in current or recent production, their codification, storage of the information involved for the purpose of retrieving and reusing the existing documentation in designing a new product, determination of the optimal production technology for the representative parts in each family, development of the tools, devices and controls and reorganization of the system of processing machines by grouping them according to the needs for building the families of parts.

Hence, it is a matter of advanced and overall typification in designing and production, which also can be used only partially or introduced on a phased-out basis, depending on conditions and needs. Implementation requires a considerable effort, which, however, has multiple compensations in the benefits involved in greater labor productivity and better utilization of the designing and production capacity.

What are the responses evoked by our suggestions and, specifically, what conditions exist for an actual assertion of the advanced methods of group technology?

Fragmentary Approaches

In order to maintain the level of efficiency modernization must involve a continuous and comprehensive process. Group technology, as introduced years ago in a number of units of the Romanian machine building industry, is largely obsolescent because it lacks the basis of a unified concept and the input of modern principles of organization.

We cannot and we do not want to contest the merit of some initiatives that have solved, at any rate better than under the traditional system, some local problems. The more so because the effort has been fully on a local basis. Here are two examples from Bucharest industry. At "Timpuri Noi," current procedures are based on a simplified alternative of group technology, for rods and other groups of components, including corresponding tools, devices and controls. A specific case involves "Autobuzul," where the machining of about 8,000 tons/year of closed sections, in a range of 28 sections for more than 100 parts for a unit of product of each model in production, is based on typical documentation and techniques and is performed in a centralized system on semiautomated machines. The classification of components in groupsof sections, grades and lengths of delivery ensures a high level of utilization of the material. It is estimated that, in comparison to the earlier system of utilization, an annual saving of about 50 tons of pipe is obtained.

In our survey we found more fragmentary approaches. Undoubtedly, they are useful but they are not equal to the broad effort of modernization of the equipment, processes, and products.

In following the instructions of the party and state leadership, the Ministry of the Machine Building Industry is now unfolding a comprehensive program for the typification of products and subassemblies. In our view, it is now a propitious point in time and there are favorable conditions for bringing group technology to the content and efficiency level required by modern economy, by supplementing it with the elements which are characteristic of the parameters of typification, on the one hand, and, on the other hand, by accordingly structuring the system of processing machines for small series. We do not know to what extent this opportunity is being considered by the Ministry of the Machine Building Industry which has not yet responded to our invitation to voice its opinion on the above-mentioned article.

Modulation, New Prospect for Efficiency

Research conducted by the chair of machine building technology at the Bucharest Polytechnical Institute provided a unique input into broadening the concept and sphere of group technologies. Interpreting world experience in light of the conditions in the Romanian industry, a number of teams of this chair tackled the problem of tools, devices, and controls in the context of resolving the contradiction between the exceedingly great diversity of the technological needs for machining and controlling the parts and the imperative of technical-economic efficiency, which involves large series. The head of the chair, Prof Dr Engr Alexandru Radulescu told us that the solution involved standardization which reaches the essence of universality: modulation.

Thus, a universal component set was devised, by decomposition, for machining devices. The device appropriate for machining a given part is assembled from this type of components and after the process for the series required has been completed it is taken apart and the components are returned to storage. An initial set has been approved at a Baicoi enterprise under the Ministry of the Machine Building Industry, which may reproduce it for provision to the entire sector.

As for the facilities for control of the dimensional parameters of the parts which are being machined, the modular alternative -- which replaces the laborious measurement by caliper and micrometer -- involves assembling components on a basic plate, depending on the characteristics of the part concerned and the parameters which need to be obtained (a process which takes a few minutes). The set obtained permits the simultaneous control of several precision parameters in a specific range of sizes, for parts of the same family or of different families.

Under contracts with the chair, a number of enterprises already are users of the new systems or are in the process of implementing them. Potential and necessary dissemination, in this case also, involves coordination not only in terms of centralized production of the sets but also in terms of issue of catalogs with alternatives for assembling the elements according to groups of characteristics of the parts, prompt adjusment and supplementation, and so forth.

Returning to the overall matters of group technologies, in the following passages we provide information supplied by some economic ministries which are involved in machine building.

Ministry of Light Industry: Favorable Prospects

The standpoint of the Central of the Industry of Household Goods, under the Ministry of Light Industry, is expressed in a letter signed by the technical director Engr G. Ionescu:

"Considering the outstanding development of Romanian technology and science in the last decade and the great long-range plans of our country, it is the duty of all experts to endorse and implement the most advantageous work methods which were successfully used in advanced countries, with technological traditions.

There has been talk and there is increasingly more talk about group technology as the generator of significant material benefits.

We endorse the view of the author of the article, who outlines proposals for expanding group technology in enterprises involved with machine building and metalworking -- and specifically the suggestion that under the sponsorship of the National Council for Science and Technology, a specific methodology for the objectives and conditions in our industry be developed. Moreover, we point out that the idea of testing this methodology in pilot units, before dissemination, is interesting.

The other proposals advanced, such as ensuring the endorsement of the methodology by nuclei of experts in industrial units and gradual upgrading of this methodology are favorable premises for implementation of group technology."

Ministry of Chemical Industry: Initial Analysis

Engr M. Paraschiv, director of the Directorate for Mechanics, Power and Automation, replied on behalf of the Ministry of the Chemical Industry:

"We circulated the article from REVISTA ECONOMICA in the industrial central specialized in machine building -- CUPSIC [Central for Equipment and Spare Parts for the Chemical Industry] -- and the Computer Center, with which we later analyzed the prospects for implementation in enterprises.

The theoretical principles of group technologies and the efficiency and the difficulties involved in implementing this procedure are known to our specialized sectors.

The units under the Ministry of the Chemical Industry are now taking steps to prepare lists of all spare parts, according to types of facilities, which are currently used in maintenance and repairs. We estimate that, based on the data which will be obtained as a result of prepararation of these lists, it will be possible to group the parts according to families and codify them. In this way we shall be able to take measures to implement group technology.

Because in the chemical industry we use hundreds of thousands of various components of spare parts, the problem involves laborious work over a long period of time. Therefore, the project is phased out over a longer span of time."

Ministry of Agriculture and Food Industry: Steps Taken

The relevance of the method was also acknowledged in the machine building sector of the Ministry of Agriculture and Food Industry. Engr Ioan Seserman, head of the section, and Engr Teodor Damsa, head of workshop, at the Brasov Design and Prototype Section of the Central For Mechanization of Agriculture and Production of Equipment for Agriculture and the Food Industry, wrote to us:

"The basic activity of our section involves design and production of facilities, tools, devices and controls for mechanization of processes in agriculture and the food industry -- in the prototype stage, hence, the stage of unique products or very small series. The designing of the equipment and the minimal technological preparation required for production necessitate long time and considerable materials expenditures.

The methods used for minimizing these expenditures include using group technology and production of tools, devices and controls from modular components.

In light of the advantages provided by these methods, which ought to be disseminated and applied on a unified basis in the machine building enterprises, for utilization in our unit we concluded a cooperative contract with the Bucharest Polytechnical Institute -- DISROM research and design collective.

The chief objectives of the program are the following:

1. Codification of parts according to families, classes and groups and the representative component, for the purpose of reusing the machine components and subassemblies in designing the machines;

2. Development of the standard technology for each representative part;

3. Sensible design of tools, devices, and controls by the SEFA-DISROM method and use of modular elements in turning them out;

4. Adequate loading of machine-tools, by reorganization of the production flow;

5. Specialized training of the technical personnel for assimilation of the work methodology.

The initial stage in introducing the method is fairly difficult and slow, because it is hard to do away with the old system of work and, especially, human routine.

The evident advantages of group technology -- such as: shorter design cycle and production cycle, lesser designing effort, standardization of components, full use of raw materials and supplies, reduction of energy consumption rates, optimal loading of machines, greater labor productivity, and so on -- are arguments which strengthen our belief on the need for introduction and utilization of the method in enterprises involved with turning out unique products and small series."

Ministry of Forestry Economy and Construction Materials: Decisive Start

Like in previous cases, we note the interest of the Ministry of Forestry Economy and Construction Materials for new developments in technological organization. Engr I. Vasilescu, director of the Technical Directorate, wrote the following:

"The article was carefully read and discussed by a broad collective of experts from the Central for Equipment and Spare Parts and its design institute. The nature of production in most units of the central -- small series and unique products of machines and small parts -- in many cases results in unwise programming of machine-tools and artificially created bottlenecks. This undesired phenomenon often caused difficulties in the flow of production and has been the topic of searches for remedies.

The result of the analyses pointed out group technology as an optimal approach. In our desire to most appropriately use it, we applied to the chair of machine building technology of the Bucharest Polytechnical Institute. With its support -- based on a cooperation contract -- a collective has begun to implement the SEFA-DISROM system in the units which make machines and parts under the central.

At this stage, the codification of all parts in production has been completed in two units: Suceava IUPS [Enterprise for Equipment and Spare Parts] and Bucharest IUPS, and the analog grouping involved was realized. The base of devices at Suceava is in the process of being completed and in the immediately following stage a similar base will be achieved at Alba Iulia. It is anticipated that the switch to using group technology will already occur this year at Suceava IUPS and that next year it will be extended to other units.

We expect that the use of group technology in the sections for mechanical processing will bring about an about 30 percent reduction in the production cycle, a 15 percent rise in labor productivity and an improvement in the quality of products."

The replies are unanimous in assessing that group technology deserves to be included in the current list of methods for rationalizing designing work and for the sensible use of the production potential. Furthermore, it follows that there is the need for organizational coordination, to handle the methodological context (research in higher education proved in this area to be a starting point which deserves being taken into consideration) and for unified action at branch level.

We hope that the Ministry of the Machine Building Industry will heed this second signal.

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